

Lydian International Ltd. – Geoteam CJSC

Amulsar Gold Mining Project (Armenia)

Land Access and Livelihood Restoration Plan (LALRP)

Prepared by:	Frederic Giovannetti 4 Rue Grivolos, 84000 Avignon – France fgiovannetti@yandex.ru
Prepared for:	Lydian International Ltd. – Didier Fohlen Geoteam CJSC – Hayk Aloyan
Date:	27 February, 2015
Version:	7 for public disclosure

Contents:

1. INTRODUCTION.....	1
1.1 SCOPE OF THIS DOCUMENT	1
1.2 THE AMULSAR PROJECT	1
1.2.1 Brief Project Description	1
1.2.2 Project Sponsors	4
1.2.3 Permitting.....	4
2. LEGAL BACKGROUND	5
2.1 KEY RELEVANT LEGISLATIVE AND REGULATORY TEXTS OF THE REPUBLIC OF ARMENIA.....	5
2.1.1 Overview of Key Legislation.....	5
2.1.2 Key Principles in the Constitution	5
2.1.3 The Expropriation Process	5
2.1.4 Valuation	7
2.1.5 Easements – Servitudes	9
2.1.6 Land Status Conversion Fee	9
2.1.7 Co-Ownership.....	9
2.1.8 Land Sale-Purchase Transactions.....	9
2.1.9 Land Users	9
2.2 INTERNATIONAL REQUIREMENTS	10
2.2.1 Overview	10
2.2.2 PS5 and PR5: Key Objectives.....	10
2.2.3 ADB’s Requirements.....	11
2.3 GAP ANALYSIS	11
3. PROJECT LAND IMPACTS	13
3.1 OVERVIEW	13
3.2 AFFECTED LAND PLOTS.....	13
4. SOCIO-ECONOMIC BASELINE INFORMATION.....	17
4.1 SOURCES OF INFORMATION	17
4.2 RESULTS OF THE HOUSEHOLD QUANTITATIVE SURVEY (GNDEVAZ).....	17
4.2.1 Demography of Affected Households	17
4.2.2 Livelihoods and Standard of Living.....	18
4.2.3 Agriculture.....	20
4.3 HERDERS.....	21
4.3.1 Overview	21
4.3.2 Availability of Land	23
4.3.3 Impacts to Herders’ Activities	23
4.3.4 Infrastructure and Services.....	24
4.4 VULNERABILITY.....	24
5. LAND ACCESS AND COMPENSATION STRATEGY AND PROCESS	25
5.1 KEY PRINCIPLES	25
5.2 PRELIMINARY STAGE OF THE LAND ACQUISITION AND COMPENSATION PROCESS	25
5.2.1 Overview	25
5.2.2 Identification of Affected Plots, Land-Owners and Land Users.....	25
5.2.3 Socio-Economic Survey	26
5.2.4 Inventory.....	26
5.3 VALUATION	26

5.3.1	Land.....	26
5.3.2	Trees.....	27
5.3.3	Annual Crops	28
5.3.4	Structures.....	28
5.3.5	Consultation on Valuation of Affected Assets	28
5.4	COMPENSATION OF LAND USERS	31
5.5	REPLACEMENT LAND	31
5.6	CONVEYOR EASEMENT	31
5.7	“ORPHAN” LAND	31
5.8	NEGOTIATED SETTLEMENT PROCESS	31
5.8.1	Compensation Offer	31
5.8.2	Negotiated Settlement Process	32
5.8.3	Payment.....	32
5.8.4	Registration.....	33
5.8.5	Use of Expropriation.....	33
5.9	MITIGATION OF ECONOMIC DISPLACEMENT IMPACTS ON HERDERS	33
5.10	INFORMATION MANAGEMENT	34
5.11	MITIGATING POTENTIAL GENDER IMPACTS OF CASH COMPENSATION	35
6.	LIVELIHOOD RESTORATION.....	36
6.1	LAND-FOR-LAND.....	36
6.2	SPECIFIC ACTIVITIES FOR HERDERS	37
6.3	LIVELIHOOD RESTORATION PROGRAMMES	37
6.3.1	Overview	37
6.3.2	Gndevaz Fruit Drying Project	37
6.3.3	Gorayk Animal Husbandry Project.....	38
6.3.4	Gorayk Gardening Project.....	39
6.3.5	Income-Generation for Local Women	39
6.3.6	Tree Nursery.....	39
6.3.7	Employment and Skills Development	39
6.4	LIVELIHOOD MONITORING	40
7.	VULNERABLE PEOPLE.....	41
7.1	DEFINITION.....	41
7.2	IDENTIFICATION OF VULNERABLE PEOPLE	41
7.3	ASSISTANCE TO VULNERABLE PEOPLE	41
8.	ENGAGEMENT AND GRIEVANCE MANAGEMENT	42
8.1	STAKEHOLDER ENGAGEMENT PLAN	42
8.2	ENGAGEMENT ACTIVITIES TO-DATE.....	42
8.3	SPECIFIC ENGAGEMENT PLAN FOR LAND ACCESS ACTIVITIES.....	43
8.4	GRIEVANCE MANAGEMENT	43
8.4.1	Overview	43
8.4.2	Anticipated Categories of Grievances.....	43
8.4.3	First Tier (Internal) of Grievance Management.....	44
8.4.4	Second Tier (Independent) of Grievance Management.....	46
9.	MONITORING AND EVALUATION.....	47
9.1	OVERVIEW	47
9.2	INPUT AND OUTPUT MONITORING	47
9.3	OUTCOME MONITORING & EVALUATION	48
9.4	COMPLIANCE MONITORING AND COMPLETION AUDIT.....	49

9.4.1	Compliance Monitoring.....	49
9.4.2	Completion Audit.....	50
10.	EXECUTION PLAN	52
10.1	STAFF AND RESPONSIBILITIES	52
10.1.1	Land Access Lead	52
10.1.2	Other Staff	52
10.1.3	Legal Services Provider	53
10.1.4	Other Outsourced Tasks.....	53
10.2	BUDGET	53
10.3	IMPLEMENTATION SCHEDULE	53
APPENDIX 1 – LIST OF RELEVANT LAND ACCESS RELATED LAWS AND DECREES		56
APPENDIX 2 – LIVELIHOOD SURVEY FORM.....		57
APPENDIX 3 – PLOT SURVEY AND ASSET INVENTORY FORMS		59

Tables:

TABLE 1. KEY GAPS IN ARMENIAN LEGISLATION AGAINST ADB/IFC/EBRD POLICIES.....	11
TABLE 2. CHARACTERISTICS OF AFFECTED LAND PLOTS	14
TABLE 3. DISTRIBUTION OF MONTHLY EXPENDITURES OF AFFECTED HOUSEHOLDS	19
TABLE 4. HERDERS AFFECTED BY THE PROJECT	21
TABLE 5. LAND COMPENSATION RATES.....	27
TABLE 6. COMPENSATION RATES – PERENNIAL CROPS.....	29
TABLE 7. COMPENSATION RATES – ANNUAL CROPS	30
TABLE 8. INPUT AND OUTPUT INDICATORS.....	48
TABLE 9. OUTCOME INDICATORS.....	49

Figures:

FIGURE 1 – PROJECT LOCATION WITHIN THE REPUBLIC OF ARMENIA	1
FIGURE 2 – THE PROJECT AND NEIGHBOURING COMMUNITIES	2
FIGURE 3 – KEY PROJECT FEATURES.....	3
FIGURE 4 – OVERVIEW OF THE EXPROPRIATION PROCESS PER ARMENIAN LAW “ON ALIENATION OF PROPERTY FOR CIVIC AND PUBLIC NEEDS”	8
FIGURE 5 – DISTRIBUTION OF LAND PLOTS BY LAND USE	14
FIGURE 6 – PHOTOGRAPHS ILLUSTRATING LAND USE IN AFFECTED PLOTS.....	15
FIGURE 7 – CADASTRAL MAP OF THE HEAP LEACH AREA (“SITE 28”)	16
FIGURE 8 – EDUCATIONAL LEVEL OF HOUSEHOLD HEADS	17
FIGURE 9 – PRIMARY OCCUPATION OF HOUSEHOLD HEADS.....	18
FIGURE 10 – POSSESSION OF HOUSEHOLD ITEMS	18
FIGURE 11 – HOUSEHOLD EXPENDITURES.....	19
FIGURE 12 – SEASONAL HERDER CAMPS AND GRAZING LOCATIONS.....	22
FIGURE 13 – DATABASE STRUCTURE	34
FIGURE 14 – LOCATION OF AREAS WITH AVAILABLE AGRICULTURAL LAND IN GNDEVAZ.....	36
FIGURE 15 – PRINCIPLES OF THE GRIEVANCE MANAGEMENT AND REDRESS MECHANISM	45
FIGURE 16 – GENERAL PROJECT IMPLEMENTATION SCHEDULE	54
FIGURE 17 – LAND ACCESS IMPLEMENTATION SCHEDULE	55

1. INTRODUCTION

1.1 SCOPE OF THIS DOCUMENT

1. This document is the Land Access and Livelihood Restoration Plan (“LALRP”) prepared for the Amulsar Gold Mining project in Armenia (the “Project”) for Lydian International (“Lydian”) and its fully owned subsidiary Geoteam CJSC (“Geoteam”). It was developed by Frederic Giovannetti, land acquisition and resettlement consultant, with support from Lela Shatirishvili, resettlement and social consultant, and Geoteam staff, over the period March 2013 – February 2015.
2. This document reflects Lydian’s work to date in relation to land access and livelihood restoration, and details plans and commitments for securing access to land in a way that complies with Armenian legislation and international requirements, particularly those of the International Finance Corporation (IFC) and the European Bank for Reconstruction and Development (EBRD), both shareholders in Lydian. The Project will seek to reach negotiated settlements with as many affected landowners and land users as possible, but may use expropriation as a last resort. As a result the requirements of IFC and EBRD pertaining to involuntary resettlement (IFC’s Performance Standard 5 and EBRD’s Performance Requirement 5) are applicable, and the development of a resettlement planning instrument is mandatory. This document is meant to comply with these requirements. It is a “Livelihood Restoration Plan” per paragraph 25 of PS5 and paragraph 24 of PR5. Paragraph 19 of PS5 and 15 of PR5 pertaining to “Resettlement Action Plans” are not applicable as no physical displacement is entailed.
3. This document is publicly released concurrently with the Environmental and Social Impact Assessment for the Amulsar Project. Some sections, such as the Project Description, are presented here in summary form, with further details found in the full ESIA report. Maps in this document have usually been sourced from the ESIA prepared by Wardell Armstrong International (WAI).

1.2 THE AMULSAR PROJECT

1.2.1 Brief Project Description

4. The Amulsar Project is a new gold and silver discovery made by Lydian in 2006. It is located in the two separate provinces, or ‘Marzer’, of Vayots Dzor and Syunik. The Amulsar deposits are located in the high elevation of Mount Amulsar. Three main communities are present in the Project area, Saravan and Gndevaz, situated in Vayots Dzor Marz, respectively approximately 5km southwest and 7km west of the deposit, and Gorayk located in Syunik Marz, approximately 5km southeast of the deposit. Jermuk, a resort and spa, is located about 8km to the north of the Project. The Project location within Armenia is shown in Figure 1 below. Neighbouring communities are shown in Figure 2 below, and key Project features in Figure 3.

Figure 1 – Project Location within the Republic of Armenia



Figure 2 – The Project and Neighbouring Communities

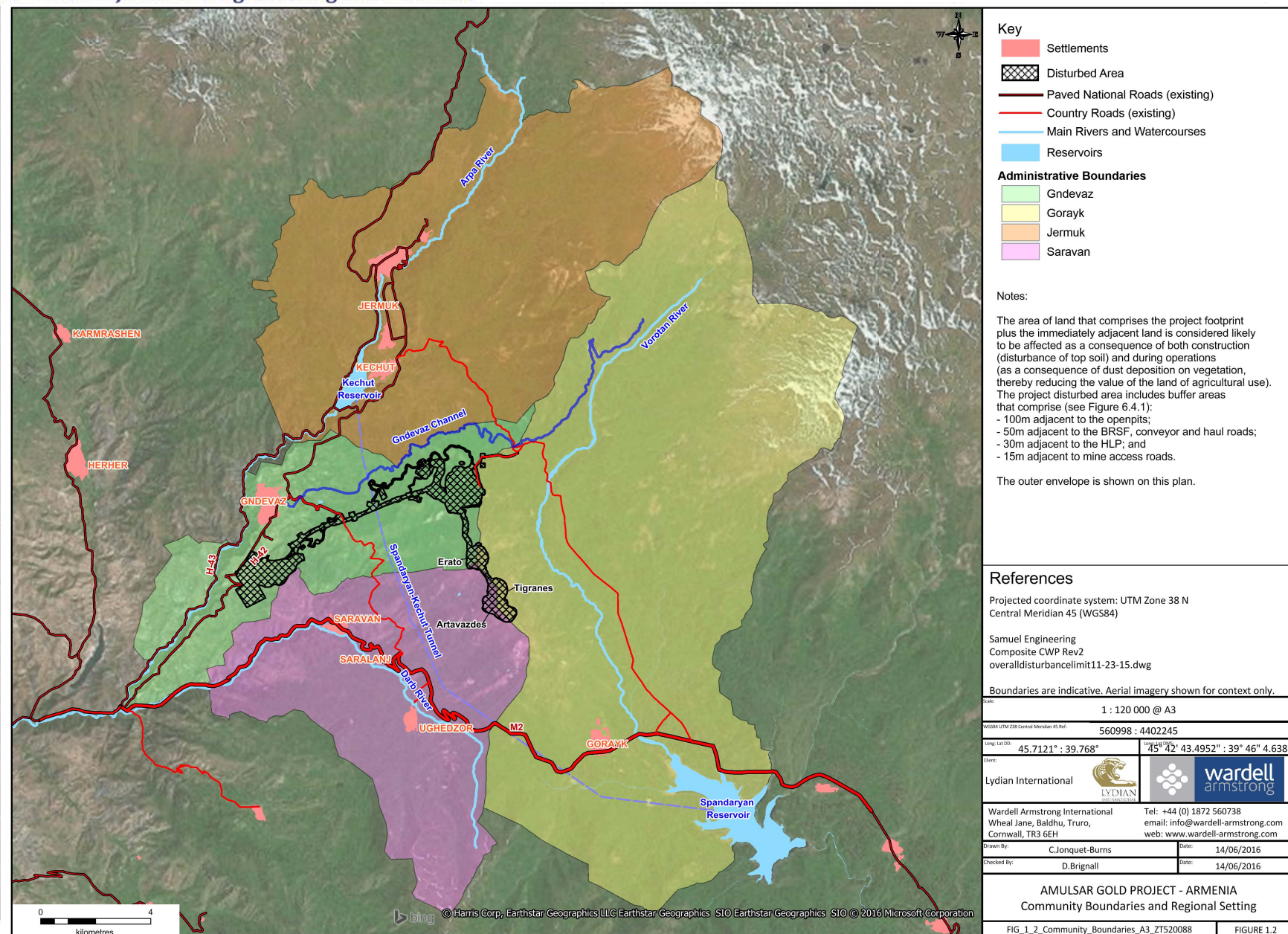
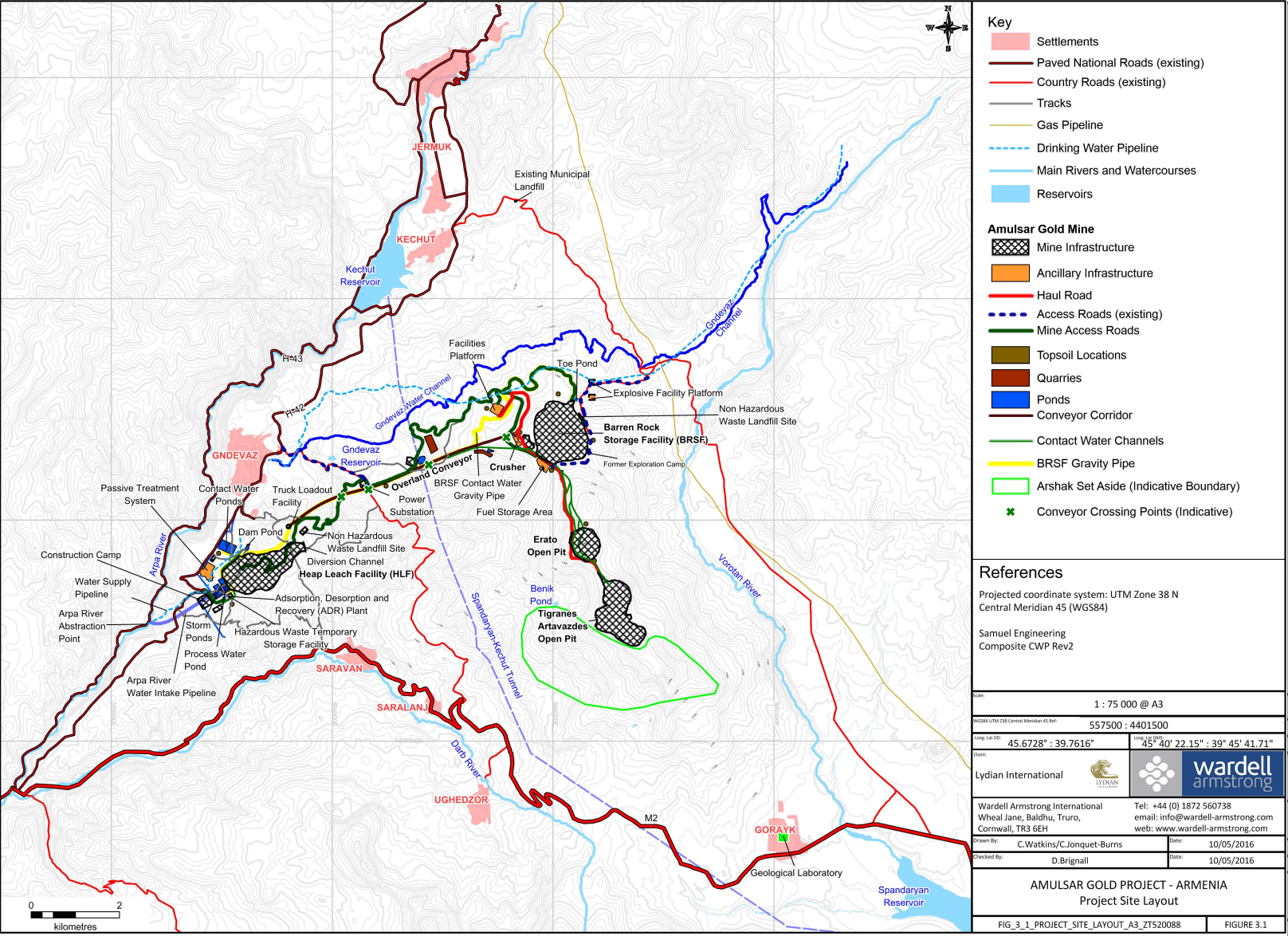


Figure 3 – Key Project Features



Note: the layout may be subject to further minor changes

5. The mining process will be open pit and the extraction of the gold and silver will be carried out using heap leaching technology. Open pit mining of the Amulsar deposits is planned over a period of about 11 years and will cover the Artavazdes, Tigranes and Erato ore bodies.
6. The proposed Heap Leach Facility is located on the western side of the Amulsar Mountain, approximately 1 km south of Gndevaz village, and approximately 6km in a direct line from the open pits. This site will also include collection ponds and the gold recovery plant.
7. Access to the mining site will be via a partially existing road which links to the main road linking Gndevaz and Jermuk. The road will continue east up the valley and will become the main access for construction, operation and maintenance of the heap leach facility. The existing power lines, which currently run along the western edge of the site, will be used to provide site power and a new electrical substation will be built.
8. The crusher will be located 1km to the north of the Erato pit, as well as maintenance workshops and offices, all adjacent to the current exploration camp. An overland conveyor will take the crushed ore to the heap leach facility. A suitable route has been identified over approximately 7.5 km between the crusher and the heap leach facility. The conveyor will be covered to avoid dust. A road will be constructed near the proposed conveyor route to provide vehicular access for maintenance of the conveyor as well as access to the crusher and production infrastructure at the top of the mountain. Fibre optic lines, water and power lines will also be located in this corridor to minimise land disturbance. The location and design of crossing points are currently being discussed with the community to accommodate the needs of vehicles, pedestrians and herds.

1.2.2 Project Sponsors

9. The Amulsar Project is developed by Lydian International ("Lydian"), a British company specialising in exploration and mine development, and Geoteam CJSC ("Geoteam"), an Armenian company fully owned by Lydian international. The International Finance Corporation (IFC), the private sector arm of the World Bank Group, and the European Bank for Reconstruction and Development (EBRD) each own about 7% of Lydian International.

1.2.3 Permitting

10. Geoteam applied for a mining permit on 29 July, 2014 and received the mining right from the Ministry of Energy and Natural Resources of the Republic of Armenia on 26 November, 2014.
11. A mining right for the exploitation of the Tigranes, Artavazdes and Erato pits is required for operations of the mines. Under the old Mining Concession Law, a Mining License SHATV-29/245 (former 14/588) was granted in 2009, updated by Order 206-A of the Minister of Energy and Natural Resources (MENR) on 22/11/2011 covering Tigranes/Artavazdes pit following an update of the Mining permit by Mining License № SHATV-29/245 dated September 26th 2012. On September 25, 2013 Geoteam applied successfully for an extension of the Mining Permit received by the Order 156-A of the Minister of Energy and Natural Resources. The Mining Permit was extended until April 3, 2040.
12. In 2014, as already mentioned above, the Company had applied for the extension of Mining Permit, which was signed on November 26, 2014 after ministerial order 286-A on November, to cover Erato open pit and infrastructure associated with mining and processing the ore.
13. The new Mining Permit is valid until January 1, 2034, which includes the following phases:
 - 2 years for construction
 - 9 years of mining
 - 7 years of mine closure.

2. LEGAL BACKGROUND

2.1 KEY RELEVANT LEGISLATIVE AND REGULATORY TEXTS OF THE REPUBLIC OF ARMENIA

14. This section is not meant as a comprehensive review of all RA land legislation. Rather, it provides a review of key legislative provisions relevant to the proposed land acquisition, compensation and livelihood restoration for the Amulsar Project.

2.1.1 Overview of Key Legislation

15. Key legislative and regulatory texts addressing land acquisition and compensation include:
- The Constitution of the Republic of Armenia (Adopted on 05.07. 1995)
 - The Law on Alienation of Property for Civic and Public Needs (Adopted on 27.10. 2006) hereafter referred to as the “Expropriation Law”
 - The Law on Real Estate Valuation Activity (Adopted on 04.10.2005)
 - The Land Code¹ (Adopted on 2.05.2001)
 - The Civil Code (Adopted on 5.05.1998)
 - The Code of Civil Procedure (Adopted on 17.06.1998)
 - The Code of Administrative Procedure (Adopted on 28.11.2007).
16. In addition to these key legislative acts, a number of texts addressing specific issues are also applicable and were reviewed. The list of these regulations is presented in Appendix 1.

2.1.2 Key Principles in the Constitution

17. The Constitution of the Republic of Armenia (05 July 1995) provides protection of ownership and property rights in line with the Universal Declaration of Human Rights and states the key principles under which owners can be expropriated for public interest (Article 31, quote): *“Everyone shall have the right to freely own, use, dispose of and bequeath the property belonging to him/her. The right to property shall not be exercised to cause damage to the environment or infringe on the rights and lawful interests of other persons, the society and the state. No one shall be deprived of property except for cases prescribed by law in conformity with the judicial procedure. The private property may be alienated for the needs of the society and the state only in exclusive cases of prevailing public interests, in the manner prescribed by the law and with prior equivalent compensation.”*

2.1.3 The Expropriation² Process

18. This section provides an overview of the RA expropriation process for general understanding of legal procedures associated thereto, which does not necessarily imply that the Project will actually use expropriation.

2.1.3.1 General Principles

19. The Expropriation Law (“Law on Alienation of Property for Civic and Public Needs”) refers to the principles of (1) prevailing public interest, and (2) appropriate and prior compensation as provided by the Constitution (see above 17).

¹ Articles 101 to 104 of the Land Code deal with the compulsory confiscation of land in reason of serious violations of the law. Article 105 addresses expropriation in cases of natural disasters and other emergencies. Articles 106 to 108 address expropriation for public and community needs. These articles state a number of principles in line with the Constitution but are generally less specific than the 2006 Expropriation Law.

² The term “Expropriation” is used here to designate what the Armenian legislation calls “Alienation of Land for Public and Civic Needs”, essentially the transfer of title of a private property to the State for reasons of public need. Synonyms in other legal contexts are “Eminent Domain”, “Compulsory Acquisition”, “Appropriation”, “Condemnation”, etc...

20. “Prevailing public interest” can be triggered by a Government decree in a number of instances identified in the law³, which, amongst others, include “Securing implementation of national, community or inter-community projects in the sectors of energy, telecommunications, water supply and removal infrastructures, heating, urban development, exploration and use of natural resources (entrails), development of transportation, communications or settlement infrastructures”.

2.1.3.2 Process

21. The Armenian expropriation process is complex and more detailed pieces of regulation apply to various aspects, such as measurements and valuation (see above 16 and Appendix 1). The key stages are the following (see Figure 1 for a simplified overview of the process):

a- Preparatory steps and Public Interest Decree:

- A “Government Decree on Recognising the Exclusive Public Interest” (Article 7 of the Expropriation Law) is necessary. This decree is taken by the Government and must be based on a preliminary survey of potentially affected properties.
- This “Preliminary Survey of the Property to Be Alienated for Civic and Public Needs” (Article 8 of the Expropriation Law) is undertaken subject to the Agency in charge of the Project submitting a specific application to the Council of Ministers, which if approved is sanctioned by a decree (“the Government Decree on Implementation of Preliminary Survey of the Property”⁴). In the overall process timeline, this decree is the first that has to be taken to launch the expropriation process.
- These two steps above can be implemented only once a detailed design and the Project final footprint are available and would altogether take about 2.5 to 3 months (application for preliminary survey and associated decree, preliminary survey, public interest decree). Once the public interest decree is approved by the Government it is to be published and notified in person to all affected landowners, who can challenge it in Court and have one month to do so (Article 9).

b- Detailed identification, description and valuation of affected properties:

- After the Public Interest decree has been notified to all identified landowners, the implementing agency responsible for expropriation is to prepare “Description Protocols” in conformance with Government approved procedures (see relevant pieces of legislation that apply to this process above in 16).
- These Description Protocols are established in the format provided in the regulations and are to be signed off by landowners before valuation of assets can proceed. In practice, this is a detailed measurement survey, addressing all elements of the affected property (land, structures, trees and crops). It does not include a socio-economic survey beyond the sheer identification of the owners and users of the affected properties. In practice, Description Protocols are established either by independent surveyors or by staff from the agency in charge of the Project.
- The establishment of the Description Protocol is considered as a cut-off date: any transactions or changes to the property occurring after the establishment of the Description Protocol are not taken into consideration. In contrast, people have the right to sell or make changes to their property between the time when they are notified of the Expropriation Decree and the establishment of the Description Protocol.
- Valuation must be implemented by an independent certified valuation firm, separately from the establishment of the Description Protocol and by a different entity. Valuation can only be carried out once the Description Protocols have been established and signed upon by the AP.

³ Article 4 of the Expropriation Law, non-official English translation.

⁴ Article 8, para. 4

- Based on the valuation, the agency in charge of expropriation prepares the overall final budget of the compensation exercise and submits a request to the Council of Ministers to make the necessary funds available from the State budget.
- c- Contract and payment:
 - Once both the Description Protocols and the valuation reports prepared by contractors are available and accepted by the Execution Agency, they are used as the basis for the drafting of a compensation contract between the agency in charge of expropriation and the affected landowner.
 - Corrections can be made at the stage of the Description Protocol and some level of negotiation can take place at the stage of the compensation contract.
 - Payments are effected by the agency in charge of expropriation by cheque or bank transfer.

2.1.3.3 *Key Issues with the Armenian Expropriation Process from an International Standard Perspective*

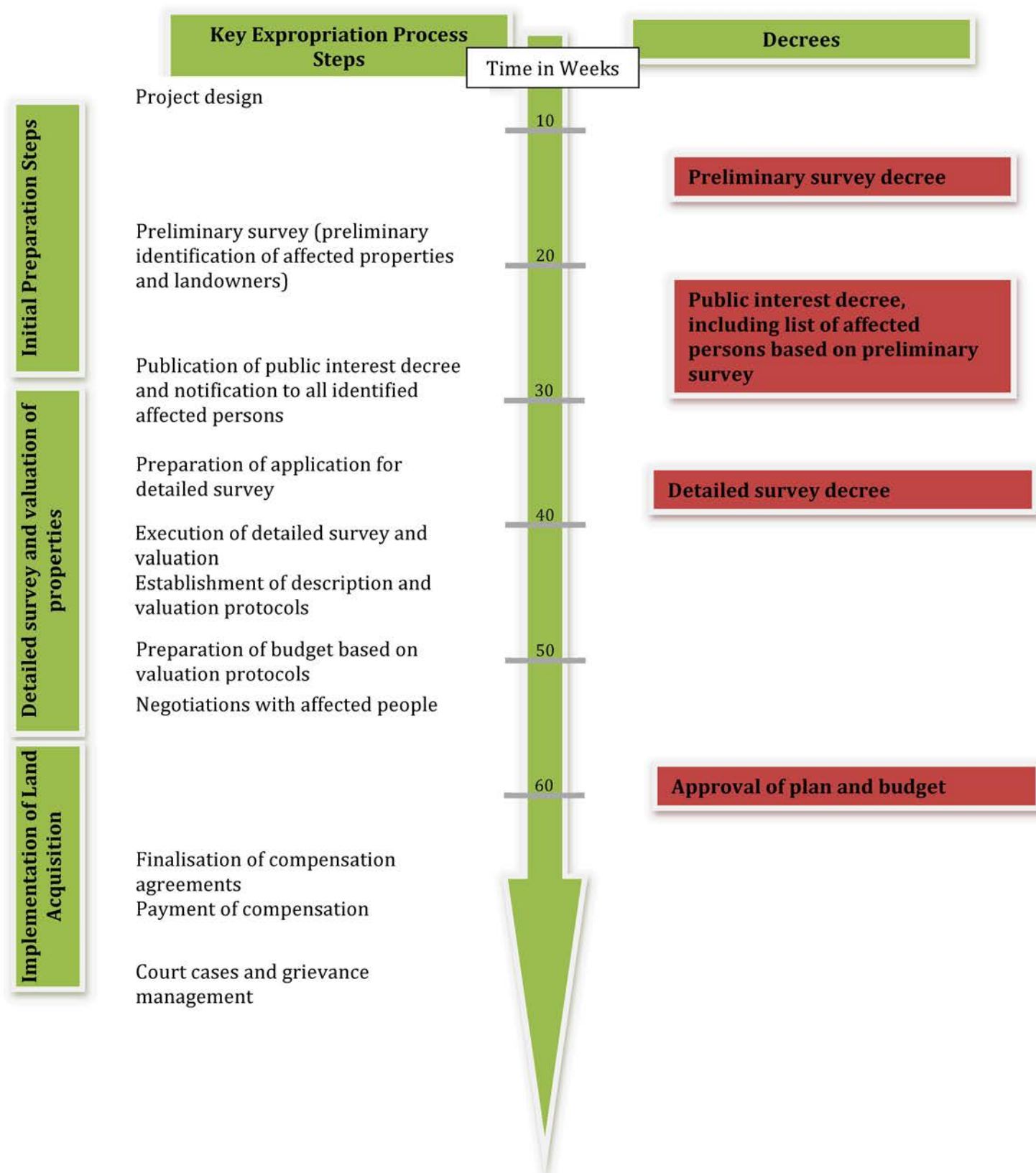
22. The Armenian expropriation process is complex. Experience indicates that Government led projects (such as roads) sometimes experience some issues with the process and associated procedures. Key issues related to the RA expropriation process for a project like the Amulsar project are the following:
 - The process requires several Council of Ministers decisions and decrees, and cannot be implemented swiftly;
 - There are no specific provisions in the expropriation law allowing private sector projects to effect expropriation and there is limited procedural experience in this regard;
 - Government agencies that are in control of expropriation procedures have to comply with Armenian legal valuation requirements and do not have the legal means to upgrade compensation values to the replacement value to meet international requirements.
23. As a result of these potential difficulties, the Project has elected to use expropriation as a last resort only, in the spirit of IFC Performance Standard 5 and EBRD Performance Requirement 5.

2.1.4 Valuation

24. Although expropriation will normally not be used for the Project (or only as a last resort in case all avenues to reach reasonable amicable settlements have been exhausted), it provides a useful benchmark as to valuation methodologies used in Armenia. Valuation of expropriated properties must comply with article 11 of the Expropriation Law, which stipulates that compensation is calculated at market price plus a premium of 15 per cent. The market price of the property is determined in accordance with the procedure set by the Law on Activity of Real Estate Valuation. Article 8 of said law states that the valuation of the real estate is mandatory in the cases of alienation of the property for social/public and state needs and that it has to be conducted by licensed valuers. The results of the valuation are to be reflected in a valuation report, which should include, amongst others:
 - The name and address of the property, as well as the date of the valuation
 - The reference to three different methods of valuation
 - The rights and restrictions over the property valued
 - Relevant data on the property with their source
 - The result of on-site examination of the property and the description of the property valued
 - The calculations of market prices per three different methods and their reconciliation.

Figure 4 – Overview of the Expropriation Process per Armenian Law “on Alienation of Property for Civic and Public Needs”

Time line is indicative and may vary



2.1.5 Easements – Servitudes

25. Articles 210-217 of the Civil Code (as well as Article 50 of the Land Code) state that the owners/users of a land plot can apply to the owner of land plots neighbouring theirs for the right of limited use of their land plots (easement or servitude). An easement (or servitude) can be established to provide for walking and riding through the neighbouring land parcel, the installation and exploitation of lines of electric transmission, communication and pipelines, provision of water supply or drainage, etc....
26. Articles 211 and 212 of the RA Civil Code define voluntary or compulsory easements. A voluntary easement is established by a written, notarised agreement, specifying the time period of effectiveness and the conditions of the servitude and including a layout plan. A compulsory easement can be established by a court on suit by a person requesting establishment of the servitude in case no amicable agreement on the establishment or conditions of a voluntary servitude can be reached. This can be done for the purpose of operation and maintenance of pipelines and engineering infrastructures established to serve for public needs.
27. Servitude rights are to be registered like other land rights.

2.1.6 Land Status Conversion Fee

28. A conversion fee is due where the so-called “target designation” of private land is changed from agricultural to industrial. It is calculated based on the difference between the cadastral value of industrial land and that of agricultural land. In the case of the Project, a specific cadastral value has been fixed by a Decision of the Council of Ministers for land to be used by Geoteam CJSC, at AMD 1,242 per m², against a conversion fee of AMD 222 per m² if Gndevaz land were to be used for another industrial purpose. The cadastral value of agricultural land can vary according to its quality and categorisation but is generally in the range of AMD 30 to AMD 50 per m² in Gndevaz. These monies are paid into the budget of the interested communities, i.e. in the case of the Project mainly to Gndevaz community, and to a much lesser extent to Saravan community.

2.1.7 Co-Ownership

29. When land was privatised in the early nineties, land was allocated to local farmers. Some of these may since then have passed away, and the title has been registered upon their decease to all their successors. As a result, many plots are held by several co-owners (typically between 2 and 5), only one or two of whom actually use the land. This situation needs to be addressed by the land acquisition process, particularly given the fact that many of these co-owners do not reside in the area.

2.1.8 Land Sale-Purchase Transactions

30. A land sale-purchase transaction becomes effective upon signature by both parties of a sale-purchase agreement. The agreement should be notarised, and the new owner(s) is (are) then registered in the title deed upon application to the State Committee of the Real Property Cadastre of the Republic of Armenia (SCRPC).
31. It is possible to pass an option agreement (or promise to sell): the seller promises to sell the property to a potential buyer within a certain period of time, and this promise is valid subject to payment of a certain percentage of the agreed price. In the situation of the Project, which needs to start land transactions before it is fully permitted by the Government of Armenia, this is advantageous as it will save time by agreeing on all conditions of the transactions beforehand, and proceeding to the transaction itself at a later date when the Project has obtained final Government permitting.

2.1.9 Land Users

32. Land usufruct is typically based on a lease agreement, passed between a land lessee and a lessor that can either be a private person or a public entity such as a municipality. There are three types of formal land leases in the Project area:

- Land leases between a private land owner and a private land user (which can be a physical or legal person such as an LLC);
- Land leases between a municipality and a private land user for agricultural production;
- Land leases between a municipality and a private herder for grazing purposes.

33. In addition:

- A limited number of users are using municipal land on an informal basis in the Project heap leach area;
- A limited number of herders using municipal pasture land on an informal basis without a formal lease agreement with the relevant municipality.

34. Such informal users farm municipal land without a formal agreement with the Municipality of Gndevaz. A similar situation exists in Saravan. Normal practice per international standards is to compensate these informal users for any crops (including trees) and developments on the land that they can claim as theirs, but not to compensate them for the land itself. This is the policy the Project will adopt as reflected further in section 5.4. This situation raises, however, a specific difficulty: per Armenian law, and in the specific case of municipal land, these informal land users have a right of first option in case related municipal land is privatised⁵. The way forward on this particular issue will be to identify such landusers, and in case they express the willingness to exert their right of first option to compensate them so they do not exert their right of first option.

2.2 INTERNATIONAL REQUIREMENTS

2.2.1 Overview

35. Lydian' shareholders include the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC). The Asian Development Bank is also considering potential involvement. As a result, Lydian and the Project are committed to comply with environmental and social requirements of both these International Finance Institutions (IFIs). Land acquisition, compensation and resettlement are addressed in the following standards, respectively:

- IFC: Performance Standard 5 "Land Acquisition and Involuntary Resettlement (2012);
- EBRD: Performance Requirement 5 "Land Acquisition, Involuntary Resettlement and Economic Displacement" (2008, revised 2014);
- ADB: Safeguard Policy Statement (2009).

36. Requirements of these three institutions are generally similar in spirit and substance. The structure of PR5 and PS5 is generally similar, while the SPS is organised slightly differently. The sections below therefore address PR5 and PS5 together, while the SPS is described separately. Key objectives are briefly summarised below⁶.

2.2.2 PS5 and PR5: Key Objectives

37. Key objectives of PR5 and PS5 are the following:

- To avoid or, at least minimise, involuntary resettlement wherever feasible by exploring alternative project designs;
- To mitigate adverse social and economic impacts from land acquisition or restrictions on affected persons' use of and access to land by: (i) providing compensation for loss of assets at replacement cost; and (ii) ensuring that resettlement activities are implemented with

⁵ There is no set price for transactions between a landowner and a land user under the first option arrangement.

⁶ For further details, refer to:

IFC: www.ifc.org

EBRD: www.ebrd.com

ADB : www.adb.org

appropriate disclosure of information, consultation, and the informed participation of those affected;

- To improve or, at a minimum, restore the livelihoods and standards of living of displaced persons to pre-project levels, through measures that can be land-based, wage-based and/or enterprise based, so as to facilitate sustainable improvements to their socio-economic status;
- To improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites.

2.2.3 ADB's Requirements

38. The current ADB policy on involuntary resettlement is elaborated in the ADB's Safeguard Policy Statement of 2009 (SPS) and specifically in Appendix 2 "Safeguard Requirements 2: Involuntary Resettlement."
39. The overarching objectives of the SPS are "avoid involuntary resettlement wherever possible; minimize involuntary resettlement by exploring project and design alternatives; enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and improve the standards of living of the displaced poor and other vulnerable groups." Its scope includes all projects entailing physical displacement (relocation, loss of residential land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources or means of livelihoods).
40. The SPS includes 12 key policy principles for involuntary resettlement, which are generally similar to those in PS5/PR5. The full SPS is available at www.adb.org/documents/safeguard-policy-statement.

2.3 GAP ANALYSIS

41. Gaps in Armenian legislation against international requirements are described in the table below, together with measures to bridge such gaps.

Table 1. Key Gaps in Armenian Legislation against ADB/IFC/EBRD Policies

Theme / Issue	Armenian legislation	ADB/EBRD/IFC policy	How can the gap be bridged
Avoiding or minimising displacement	No specific provision	Displacement must be avoided or minimised	Feasibility Study has included iterative process between design and resettlement specialists aimed at minimising displacement impacts
Resettlement planning and associated documentation	Decree taken after survey should reflect all affected people and affected assets, but no planning documentation is required that might correspond to the EBRD/IFC concept of a resettlement plan or framework	Plan to be prepared and publicly disclosed	Plan to be developed in line with ADB/EBRD/IFC requirements and further included in the project legal documentation contractually agreed between ADB/EBRD/IFC and borrower / sponsor
Consultation and disclosure	Expropriation Decree to be disclosed individually to affected owners but no provision for collective consultation	Resettlement planning to include meaningful engagement with affected persons and other stakeholders and disclosure of draft and final resettlement frameworks or plans	Consultation and disclosure to be implemented on top of Armenian requirements and to be specified in resettlement or livelihood restoration planning documentation

Theme / Issue	Armenian legislation	ADB/EBRD/IFC policy	How can the gap be bridged
Valuation	Market value + 15% per Expropriation Law	Replacement value – See definition in EBRD PR5 / IFC PS5	Valuation methodologies commonly used in Armenia may not reflect market value adequately, and in rural areas there are very few transactions to base a comparison on. Valuation methodology for the Project will combine compliance with Armenian requirements and the use of internationally accepted methodologies for determination of the replacement value of land and crops. See section 5.3 for further details.
Informal occupants on State, municipal or others' land	Not eligible unless they can be legalised	Potentially eligible to compensation of structures, crops and developments if they own these, regardless of land ownership	Provisions applicable to informal users' compensation to be specified in LALRP
Livelihood restoration	Not addressed	Transitional assistance and other assistance to be provided where livelihoods are affected	Livelihood restoration assistance to be presented in LALRP and formally agreed upon between lenders and Project
In-kind compensation (replacement of land or structures by equivalent properties)	Not specifically addressed (but not explicitly excluded)	"Land for land" based compensation to be preferred, particularly where land is critical to livelihoods	Provisions for in-kind compensation (including resettlement packages with replacement properties if applicable) to be detailed in LALRP
Grievance redress	Through the Court system	Should be easily accessible to affected persons (which is not necessarily the case of the Court system)	Pre-judicial grievance redress mechanism to be described in LALRP, with judicial redress intended as a last resort triggered only once amicable and extra-judicial efforts have failed
Monitoring and Evaluation	No specific provision	Monitoring and evaluation are required	Include provisions in respect of Monitoring and Evaluation in LALRP

42. Key issues among those identified above are the following:

- Livelihood restoration, which in past Armenian practice of infrastructure projects financed by certain IFIs and implemented by Government agencies is simply envisioned as additional cash rather than any meaningful development activities and associated monitoring;
- Replacement value, as the comparative valuation method used in Armenia is often based on analogue transactions that are underestimated or too few in number to be meaningful.

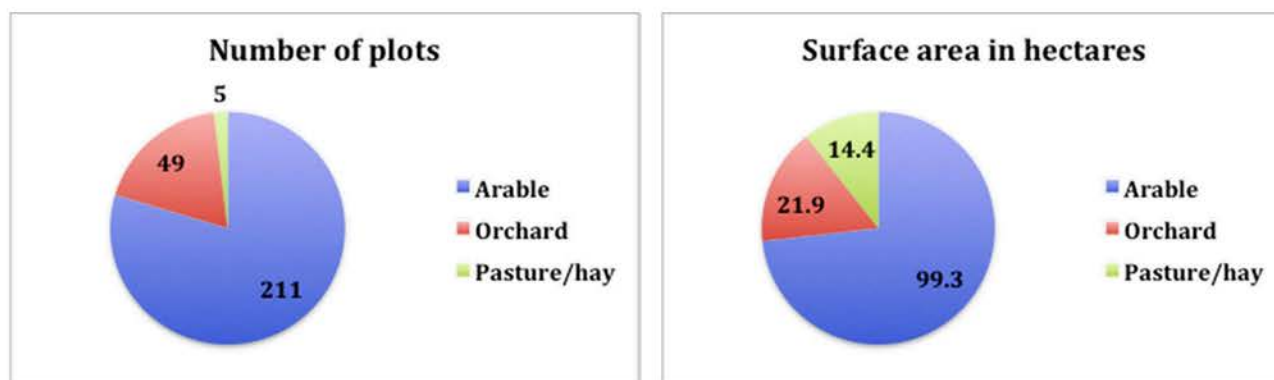
3. PROJECT LAND IMPACTS

3.1 OVERVIEW

43. Land that will be required for construction and operation of the Amulsar Project is located in the communities of Gndevaz and Saravan. There is some land affected within the territory of the community of Gorayk but it is all State land and no private landowners will be affected.
44. The Project entails no physical displacement: nobody will have to move as a result of the Project construction or operations. However, it will cause economic displacement (impacts to livelihoods).
45. In terms of their impacts on land and land use, Project facilities can in summary be classified as follows:
 - Mining pits and facilities directly associated to mining activities (including: barren rock storage, explosive magazine, water storage pond, exploration camp [existing], construction camp, and the conveyor) are located in high mountain areas, at altitudes above 2,000masl, where land is either summer pasture or barren; there is no privately owned land in these areas, and land is either State- or Municipality-owned; impacts of these facilities are limited and interest mainly a number of herders that use these areas for grazing their cattle in summer.
 - In contrast, the heap leach facility and the gold extraction plant are located in areas under 1,700masl, and are used for agricultural production, including relatively recent plantations of apricot trees.
46. Some of the land that will be required for the Project will be needed for the period of construction and mining only (approximately 13 years). This is particularly the case for the conveyor between the crusher and the heap leach facility, and possibly for some of the barren rock storage areas, in the communities of Gndevaz and Saravan. Upon mine closure, such land will then be re-contoured, restored and transferred to community ownership for communal use as pasture or forest land. Due to slope and safety issues, the mine pits will not be usable for grazing and will likely not be returned to community ownership.
47. The conveyor is a linear facility (the total width of the right-of-way, including a maintenance track, is about 30 metres). Upon decommissioning, it will be dismantled and associated land will be restored. Access to related land will be through an easement process whereby land ownership will not change and Geoteam will be granted usage rights over a linear strip of 30 to 50 metres in width for the duration of operations. Upon decommissioning, the easement agreement will be terminated and usage rights will be returned to the original landowner.
48. The heap leach facility (located in the territory of Gndevaz) will be dismantled and the land rehabilitated but will not be usable because of technical restrictions (soil and sub-soil unsuitable for agricultural use and slope). It will not be possible to return this land to agriculture. Geoteam will be acquiring this land permanently as a result. Geoteam will be responsible for long-term maintenance and ensuring community health and safety by means of any access restrictions to this land that may be warranted, as discussed in the Mine Closure Plan and relevant chapters of the ESIA.

3.2 AFFECTED LAND PLOTS

49. The heap leach site of the Project affects a total of 265 private land plots and a total surface area of private land of 135.55 hectares. The distribution by land use of these 265 private land plots is shown in the following graphs:

Figure 5 – Distribution of Land Plots by Land Use

50. The following table presents some characteristics of the affected land plots:

Table 2. Characteristics of Affected Land Plots

	Arable	Orchard	Pasture / Hay	Overall
Average surface area (m ²)	4,704	4,467	28,811	5,115
Median surface area (m ²)	3,400	3,370	15,000	3,430
Minimum surface area (m ²)	169	158	756	158
Maximum surface area (m ²)	91,150	20,000	90,000	91,150

51. Affected apricot orchards are located in the lower part of the footprint of the proposed heap leach facility. Some other fruit tree species are also observed in that area, including peach and others, but the overwhelming majority of orchards are apricot. Most vegetable gardens are located along the paved road towards Gndevaz settlement. In most of these gardens, vegetables are mixed with some trees, including apricot, apple, and walnut. Mixed crops are also observed in a few parcels in the heap leach facility, with hay and cereals planted in the intervals between trees. Densities of apricot trees are rather high, with the typical interval being 5m x 5m, sometimes 5m x 4.5m.
52. Higher in the mountains (conveyor and around the mine), land is not arable and is used exclusively for pasture and foraging, if at all. Most of such land is municipal, particularly at the mine site (pits, crushers, haul and access roads, mine infrastructure and barren rock storage facility). Some of this land is leased by the municipalities of Gorayk, Saravan and Gndevaz to individual herders based on one- to three- year lease agreements.
53. Some photographs of affected land plots are presented on the next page (Figure 6). Figure 7 presents the cadastral map established by Geoteam as part of the land access exercise, based on information held by the Cadastral Bureau of Armenia, groundtruthed with landowners during the identification and valuation exercise described in section 5.2.4.
54. In addition, 83 land plots (total surface area: 45.3 hectares) are affected by the conveyor (30 metre wide strip taken for the life of the mine, then restored and handed back to the landowners). The affected strip within these plots will be compensated pursuant to an easement agreement.

Figure 6 – Photographs Illustrating Land Use in Affected Plots

1- Apricot orchards in the lower part of the heap leach facility



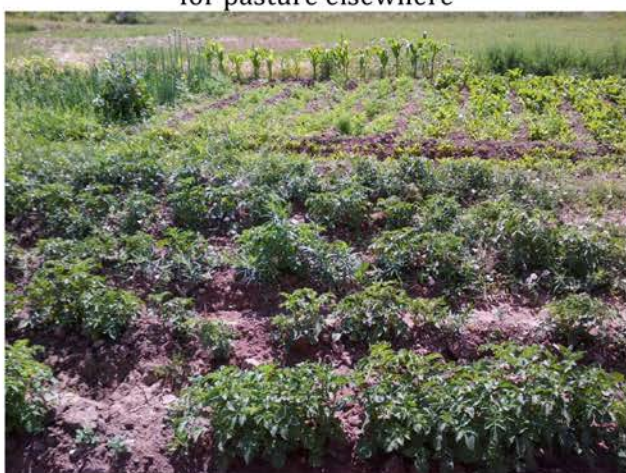
2- Apricots mixed with hay



3- The higher part of the heap leach facility is natural grass used for hay where slope allows or for pasture elsewhere



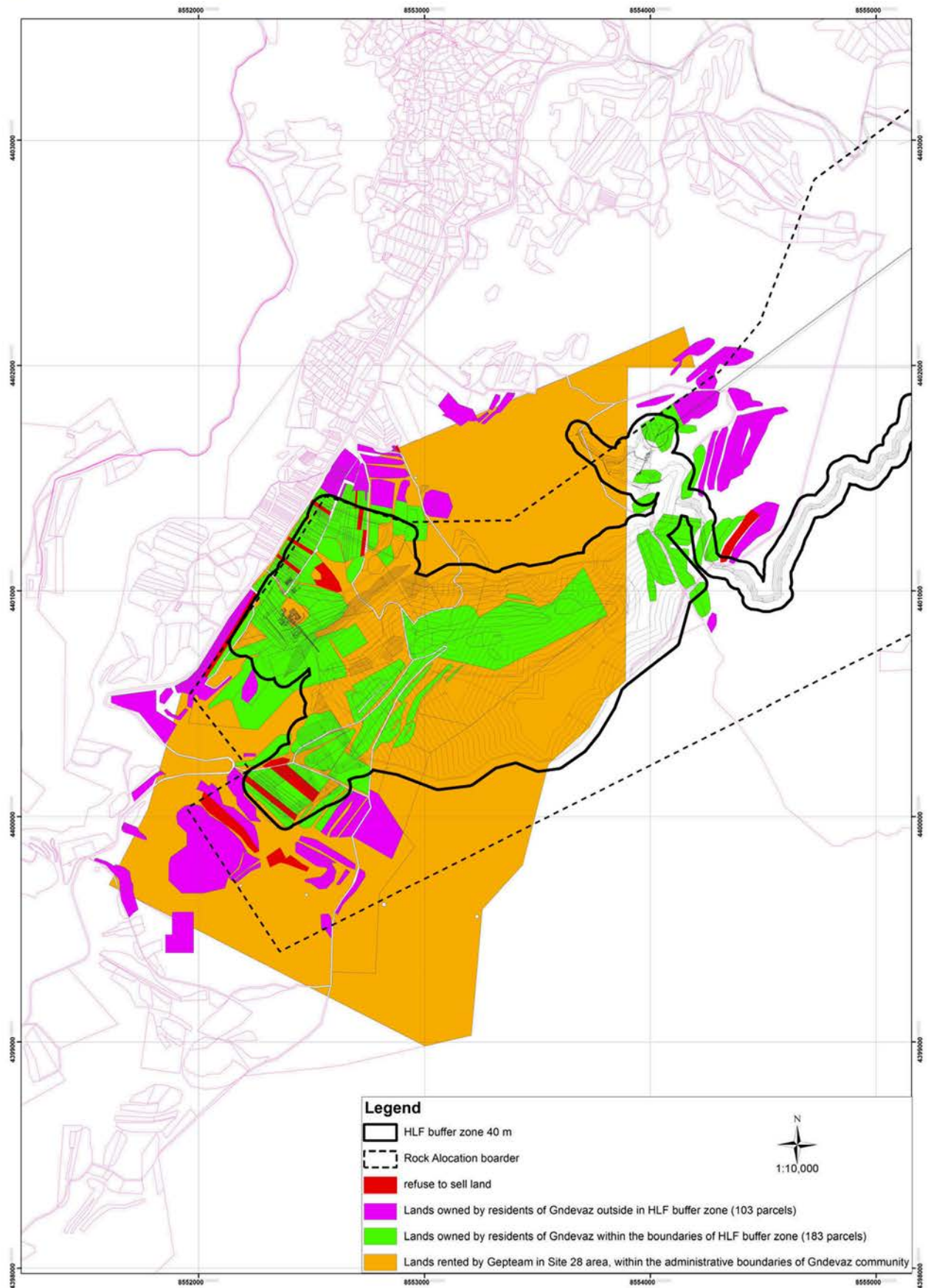
4- Spring wheat in the lower part of the heap leach facility



5- Garden crops in the lower part of the heap leach facility



6- Garden crops along the road close to Gndevaz settlement

Figure 7 – Cadastral Map of the Heap Leach Area (“Site 28”)

4. SOCIO-ECONOMIC BASELINE INFORMATION

4.1 SOURCES OF INFORMATION

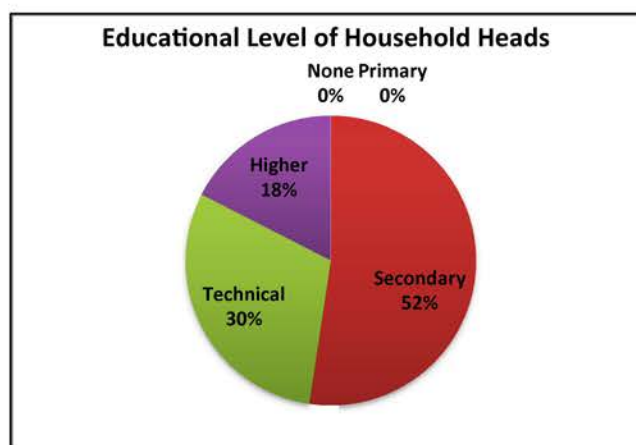
55. The following sources of information have been used to generate the summary socio-economic baseline presented in this chapter:
- A livelihood survey carried out in June-July 2014 of Gndevaz households identified as affected per the cadastral list of affected plots. 128 affected households (all affected households that were available for the survey) were interviewed. The socio-economic survey form is presented in Appendix 2;
 - A herder survey carried out in the summer of 2012 of 70 potentially affected herders using land in the communities of Gorayk and Gndevaz;
 - Qualitative information gathered from local sources, including local authorities and various key informants;
 - Focus groups held in June-July 2014 by the team in charge of ecosystem services investigations for the ESIA.

4.2 RESULTS OF THE HOUSEHOLD QUANTITATIVE SURVEY (GNDEVAZ)

4.2.1 Demography of Affected Households

56. The average age of households' heads is 54.5 years, with the minimum age 22 years, and the maximum 96 years. The median age is 52 years. Household size is 4.4 individuals (including the head of household) in average, with the minimum 1, the maximum 8 and the median 5.
57. There are 15 female-headed households (11.7%). Most of these are one-person households (typically an elderly widow). These households are identified as potentially vulnerable.
58. The educational level of heads of households is shown in the figure below:

Figure 8 – Educational Level of Household Heads



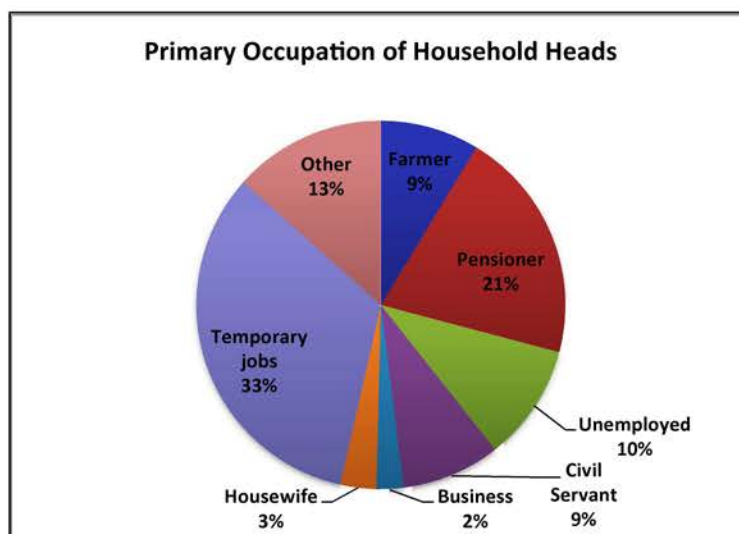
59. This depicts a generally well-educated community, where no head of household has not completed at least primary education.

4.2.2 Livelihoods and Standard of Living

4.2.2.1 Primary Occupation of Household Heads

60. Figure 9 below shows primary occupations declared by household heads:

Figure 9 – Primary Occupation of Household Heads

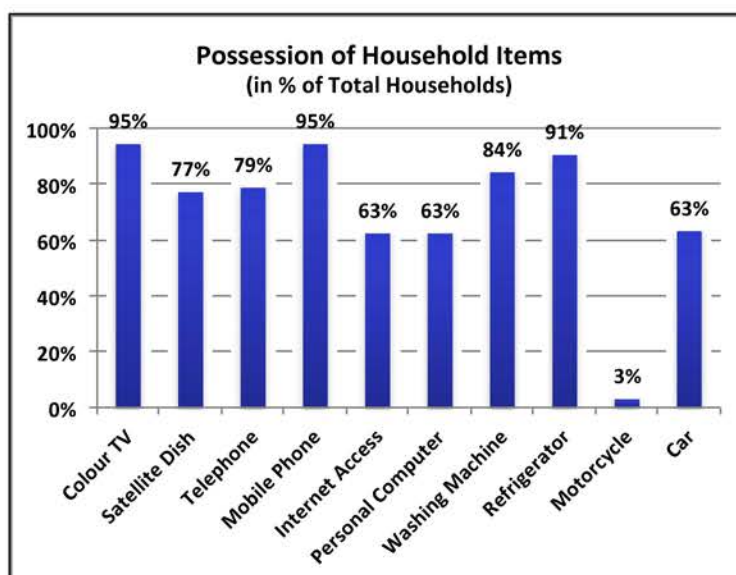


61. While all 128 households that were surveyed have an agricultural plot (the one that is affected), the percentage of household heads stating that farming is their primary occupation is relatively low at 9%. In fact, most households base their livelihoods on a combination of activities, including farming and others.

4.2.2.2 Standard of Living

62. Figure 10 below shows the percentages amongst affected households of those owning certain household items selected as indicators of standard of living.

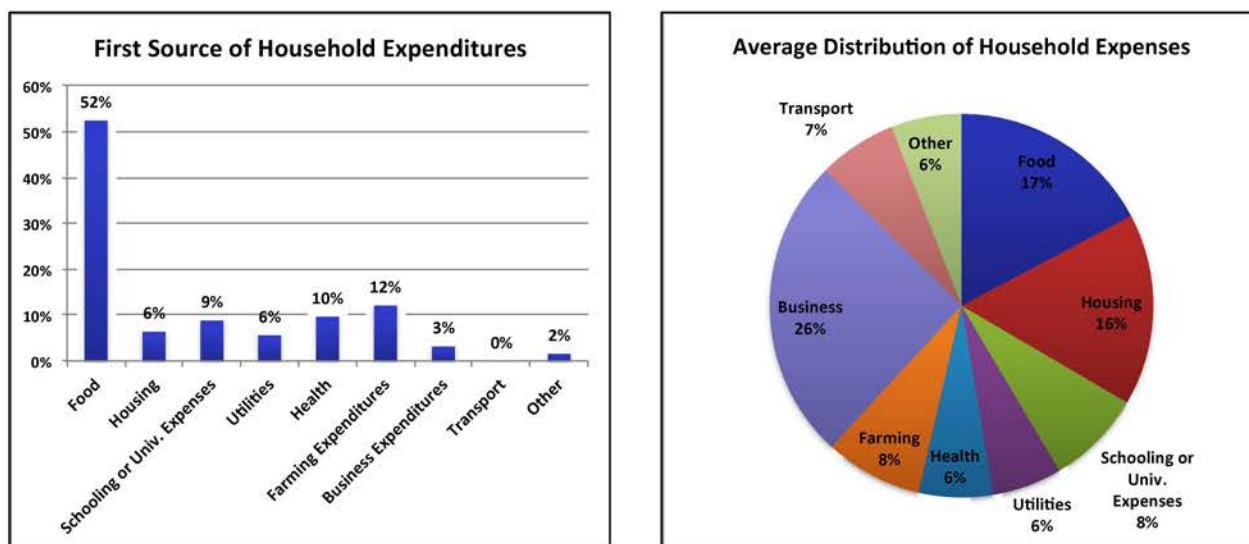
Figure 10 – Possession of Household Items



4.2.2.3 Income and Expenditures

63. Figure 11 below shows (left side) the percentage of affected households declaring certain types of expenditures as their primary source of expenses, and (right side) the average distribution of expenditures. Food is declared as the first source of expenditures by about half of affected households, and represents about one sixth of the average household budget. This is consistent with responses to another question in the survey, about self-consumption of the produce of the affected plot: 80% of interviewed households do not use the produce of the affected plot at home and sell it all. Business expenditures are high in the average distribution but interest in fact a very limited number of households.

Figure 11 – Household Expenditures



64. Table 3 below shows the statistical distribution of the total expenditure amount (taken as one indicator of cash income) of affected households:

Table 3. Distribution of Monthly Expenditures of Affected Households

	Total Monthly Expenditures	
	AMD / month	USD / month
Average	317,465	765
Maximum	5,050,000	12,169
Median	250,000	602
First quartile ⁷	139,375	336
Second quartile (median)	250,000	602
Third quartile	375,750	905
Fourth quartile (maximum)	5,050,000	12,169

65. This table shows a relatively flat distribution within the community of affected households, with few disparities as shown by the respective values of the first three quartiles. The maximum is not significant as it mixes business expenditures with household expenditures. While asking about expenditures usually provides more reliable information than a direct question on cash income, these numbers, based on interviewees' statements, have still to be taken with some caution.

⁷ First quartile : 25% of households spend less than (NUMBER). Second : 50% of households spend less than (NUMBER). Etc...

4.2.3 Agriculture

4.2.3.1 Overview

66. Several types of agriculture are observed in different parts of the affected area:
- Mainly found in the north-west of the HLF footprint, a number of small plots are used for garden crops (see photograph 6 of Figure 6 above): part of the produce is sold but a significant part is kept for consumption at home and preserves. These plots bear a mix of garden crops (typically potatoes, a few fruit trees, and tomatoes, maize, pepper, cabbage, etc...).
 - The valley that forms the bulk of the HLF footprint is used for relatively recent apricot plantations (about 25 hectares of orchards in total). These are an extension of the main apricot area of Gndevaz, which is located immediately to the south of the residential area. These orchards are run as businesses, with farmers using a combination of family and paid workforce, and all the produce sold (see below section 4.2.3.2). Interspersed within the apricot orchards a few plots are used for annual crops, particularly spring wheat, maize meant for silage, and barley. Some of the apricot farmers have used a small part of their orchard for a garden. In some cases, the farmer collects the hay that grows in between apricot tree rows.
 - Higher in the mountain (eastern end of the HLF, conveyor), a colder climate combined with steeper and rockier terrain are such that land is dedicated to natural grass. Where tractor access is possible, hay is gathered and taken back to Gndevaz, otherwise land is simply used as pasture.

4.2.3.2 The Apricot Chain

67. Gndevaz is renowned all over Armenia as a prime apricot production community. The combination of altitude and good exposure is such that apricots grow well and are harvested later than in most of other Armenian apricot growing areas (particularly as compared to the Ararat valley). The quality and late harvest provide the Gndevaz area with a competitive advantage, and apricots are sold at a higher price than in other areas. Part of the production is exported to Russia, using Armenian-Russian buyers that although originally from the area are established there.
68. Apricots from Gndevaz are usually bought by intermediary buyers, generally the same from one season to the next, sometimes with support from middlemen from the community. These intermediary buyers are present in the community with trucks and packaging boxes from around 10-15 July to 5-10 August, during the harvest season. They arrange to buy apricots from farmers at the orchard gate and transport the fruit to larger buyers located in Yerevan, Ashtarak or Armavir, who then market the fruit to retailers in Yerevan (supermarkets) while also exporting a sizable part to markets in Russia by road or even by air.
69. The buying price of apricots from Gndevaz farmers is higher than that of other areas of production in Armenia because of the following:
- Due to high altitude, Gndevaz apricots are late harvest: they are marketed only from mid-July and into August, well after the peak of Armenian apricots season, which is late June – first half of July, and therefore have a significant competitive advantage;
 - They are reputed for visual quality and taste (a specific variety, “Shalakh”, is grown).
70. In 2014, better quality apricots were bought at around AMD 1,000 per kilogram, with peaks at AMD 1,200 in the season. Towards the end of the harvest (around 1st August, 2014), the prices decreased as the apricots are then too ripe to be exported and are in the range AMD 600 to 800. Lower quality apricots can be bought between AMD 500 and AMD 800. The average retail price of Gndevaz apricots in Yerevan was about AMD 1,400 per kg in August 2014. 2014 was a very bad year at the national level for apricot production as all plantations in the Ararat valley, which is the main area of mass apricot production, were affected by late frosts and hail, with very low levels of production and high prices as a result.

4.2.3.3 Agricultural Land Users

71. With the exception of herders, who are addressed below in section 4.3, agricultural users in the Project affected area were generally found to be affluent individuals who have secured land through formal or informal land leases to expand their agricultural enterprises (apricot plantations). No potentially vulnerable land users have been identified at this point. The landlessness risk is therefore assessed as minimal in this context for agricultural land users.

4.3 HERDERS

Note: this section is mainly based on investigations by Wardell Armstrong International (WAI) and Treweek Environmental Consultants (TEC) for the preparation of the Environmental and Social Impact Assessment (ESIA).

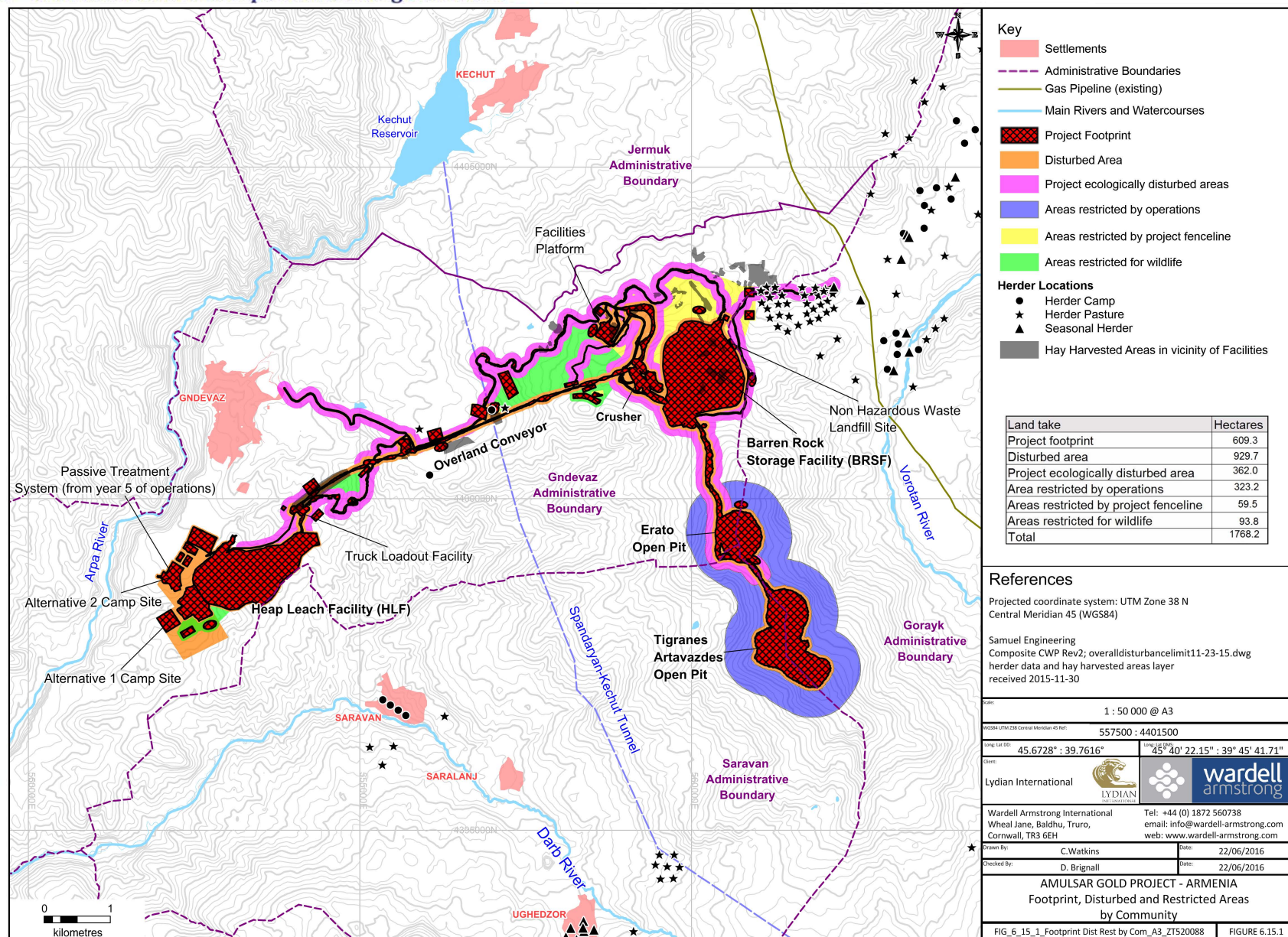
4.3.1 Overview

72. A census of the seasonal herders was undertaken in August and September 2012 and results from this census are briefly described below. The census covered a broader area than that which will be affected by the project as part of its land take to generate an adequate baseline. The herder locations (grazing and temporary camps) are illustrated in Figure 11 below.
73. Of the 58 seasonal herders who migrated to the broader area in 2012 (believed to be a typical year), 20 herders grazed their animals within the Project licence area (between the Barren Rock Storage Facility and the Temporary Construction Camp), and could therefore be potentially affected by Project land take and restriction of access. The table below summarises the findings from the 2012 census, indicating the project footprint areas, which will affect seasonal herders.

Table 4. Herders Affected by the Project

Locations	Herder Use	Affected or Not-Affected
Heap leach facility and Conveyor area	One herder surveyed (based in Gndevaz). The area around the HLF is predominantly used for apricot cultivation, but some land in the upper part could be used for access to conveyor zone. The area is also crossed by herds from Gndevaz village to reach summer pastures along the main road to Jermuk.	Potentially Affected
Barren Rock Storage Facility	15 herders surveyed who have camps in the BRSF footprint and who use the area to graze cattle (all originate from the village of Xndzoresk). They stay in tented camps for the duration of the herding season and have approximately 5-600 cattle (mixture of dairy and beef).	Potentially Affected
Temporary Construction Camp	1 herder observed in the area, but not using the construction camp site	Not affected
Ughedzor	All residents interviewed, none use the footprint area for grazing	Not affected

Figure 12 – Seasonal Herder Camps and Grazing Locations



74. Focus group discussions with herders conducted in July 2014 highlighted the range of livelihood activities undertaken by seasonal herders while they are in the area. For example, the herders originating from Xndzoresk reported the following productivity and income:
- Between 15-16 herders, they have about 5-600 head of cattle, comprising a mixture of dairy and beef cattle;
 - Up to 30-40 kilos of cheese are produced in the camp during the summer season;
 - Up to 6 trucks collect milk from the herders daily (morning and evening). It is estimated that between 2,000 and 3,000 litres of fresh milk are collected daily at AMD 140 per litre, generating an estimated gross income of about AMD 300.000 per day (about USD 625 or about USD 40 per herder per day). These are general orders of magnitude and would need to be confirmed through a more specific survey.

4.3.2 Availability of Land

75. Herders rent land from the community administrators, with much of the potentially affected seasonal herding activities taking place on land administered by Gorayk. Lease agreements are typically formalised between the local authority and the herder, and a minimal rental fee is paid into the community budget. Local Mayors of Gorayk, Saravan and Gndevaz report having sufficient additional similar pasture and hay land available for rent, which could be used by herders when the project restricts access to the land they are currently using. WAI work identified that access to land and water and proximity to any existing milk collection services and herders permanent houses are the key attributes which need considering when developing and implementing the full LALRP.
76. A visual land capability assessment conducted by WAI indicated that some of the land being used for grazing purposes at present is over-grazed. This is supported by feedback from herders during the census. The quality of the land, which will be lost is discussed in greater detail in the ESIA.
77. Consultation with herders and mayors will be held in the first half of 2015 well before the impacts take place to finally identify land that meets herders' criteria (i.e. quality of pasture and proximity to proper access for milk collection). The outcome of such consultation will be reflected in detail in monitoring reports.

4.3.3 Impacts to Herders' Activities

78. During the 2012 census, herders indicated a preference to stay on the same land if the option was available, but in the absence of that option, only minimal inconvenience was anticipated if a move was required as similar land is available. Importantly, during the focus group discussions held in July 2014, the herders who originate from Xndzoresk (and are based to the east of the BRSF during summer months) indicated it takes three days for them to move their cattle from their village to this area at the beginning of summer (May each year). If the mine were to require this land, the herders indicated that they would like to move to land closer to home, using mountains which they consider to be "idling" in proximity to their village. They have been using the Vorotan valley for generations because the Vorotan stays green longer than other areas in south-eastern Armenia.
79. For those herders who have formal agreements with the community administrators entitling them to rent the land, no significant inconvenience will be caused by the formalisation of a new arrangement for a different area. A small proportion of herders use the land in the project area without a rental agreement or payment of fees to the community administrators. In this context, they are more vulnerable to a change in circumstances. These herders reported that the primary reason for non-payment of access fees for land by this group is that they cannot afford it, hence they may be more vulnerable to this change in circumstances. The Company will monitor herders to check that all herders visited in 2012 and 2014, including those without a lease, have been able to identify and exploit new pasture areas with minimal inconvenience, and that grazing fees for replacement land are within a reasonable range. If negative impacts are identified, additional support measures will be identified in interaction with local mayors and implemented to ensure

that affected herders can secure proper access to adequate and affordable replacement pasture land. The Company will report on progress and monitoring of this issue in its periodic monitoring reports.

4.3.4 Infrastructure and Services

80. There are no formal structures constructed or used by herders as temporary camps, however, the 2012 census identified nine herders within the broader area who use ruins, semi-completed buildings and abandoned structures to support their camps. None of these structures are expected to be impacted by the Project. A proportion of the herder camps are mobile and use portable tents, so can be moved to a new location with comparable ease.
81. No services are provided to the herder camps (i.e. no electricity, sewerage, waste collection, water distribution etc.)

4.4 VULNERABILITY

82. Based on the livelihood survey of Gndevaz land owners and land users, affected people have been pre-screened for potential vulnerability as follows:
 - There are 15 female-headed households (11.7%). Most of these are one-person households (typically an elderly widow). These households are pre-identified as potentially vulnerable;
 - 22 household heads are 65 years of age or more, and are also pre-screened as potentially vulnerable;
 - 1 household is categorised as “very poor and unable to cope with their basic needs”;
 - There are 32 invalids (either people registered as invalids of 1st to 3rd categories per Armenian law, or people declared as chronically and seriously ill in the survey) amongst the affected households;
 - Altogether, and taking account of overlaps between the categories above, 27 households are pre-identified as potentially vulnerable.
83. Specific measures meant for potentially vulnerable households are described further in this document (Chapter 7).

5. LAND ACCESS AND COMPENSATION STRATEGY AND PROCESS

5.1 KEY PRINCIPLES

84. Key principles guiding land acquisition for the Amulsar project are the following:
- Land access is based on negotiated settlements in the sense of applicable international requirements (ADB, EBRD and IFC); expropriation is used only as a last resort if all avenues to reach a reasonable amicable settlement have been exhausted;
 - The land access process complies with Armenian legislation and international standards, including ADB's SPS, EBRD's PR5 and IFC's PS5;
 - Any compensation is at least at replacement value;
 - A land-for-land option is available to those willing to choose replacement land rather than cash compensation;
 - Identification of affected plots and affected people is based on official cadastral information, complemented and ground-truthed if claims arise;
 - Impacts to livelihoods are assessed and mitigated where needed;
 - Wherever legally, technically and economically possible, land used for the Project is returned to its previous physical condition and ownership after use for mine construction and operations;
 - A grievance management mechanism is in place;
 - Affected people are informed and consulted with; and
 - Vulnerable individuals are identified and assisted where needed.

5.2 PRELIMINARY STAGE OF THE LAND ACQUISITION AND COMPENSATION PROCESS

5.2.1 Overview

85. The land acquisition and compensation process includes the following five key steps:
- Identification of affected land plots, landowners and land users, including informal land users, based on cadastral information, and title search and gathering of all legal documentation (land titles, leases, mortgages, liens, certificates of death and wills to determine inheritance, powers of attorney);
 - Socio-economic survey of affected landowners and land users;
 - Inventory of assets on the affected plots, including structures, trees, and crops;
 - Compensation offer to the affected landowner (including a land-for-land option), and land user if applicable;
 - Finalisation of the transaction (sale-purchase agreement) and transfer of the land plot to Geoteam's property.
86. This section describes the first three steps above, whereas the last two steps are described in details in section 5.4.

5.2.2 Identification of Affected Plots, Land-Owners and Land Users

87. The final Project footprint has been available since May 2014 (with some minor changes since then). Cadastral information in this footprint was acquired from the Cadastral Office and a database and informed map of affected plots was created on this basis. The cadastral list includes the following information:
- Plot cadastral code;
 - Surface area;
 - Identification of all registered co-owners;
 - Information pertaining to the determination of the plot cadastral value.

5.2.3 Socio-Economic Survey

88. Owners, co-owners, and land users that reside in the nearby communities are submitted to a socio-economic survey. Its purpose is to establish the current socio-economic circumstances of every affected household, in line with international requirements. It addresses the following topics:
 - Census of people residing in the affected household
 - Social and economic information.
89. This survey took place between June and October 2014 and was implemented by a team of local enumerators hired by Geoteam from the local communities. When the affected family was visited by the team for socio-economic survey, they were also invited to present the land title of the affected plot as well as their identification documents (“passports”) and marriage certificate. Where one of the registered co-owners is deceased, an inheritance certificate, or at least the death certificate, was collected by the team, such that further steps to register the interests in the property can be defined.
90. The results of the livelihood survey are presented above in Chapter 4.

5.2.4 Inventory

91. At the same time (June and July 2014) an inventory of affected plots was conducted by an independent Armenian valuer and an independent Armenian agronomist, both experts in their respective areas. This was meant to describe the plots as well as any structures, trees and crops thereupon. Key results are presented in Chapter 3. A full database of affected plots with characteristics relevant to their valuation, including the count of trees and measurements of annual crops, is available to Geoteam and will serve as the basis for the preparation of compensation agreements and compensation payments.
92. The date on which the inventory carried-out in June-July 2014 is signed off by the affected landowner or landuser serves as cut-off in the sense of PS5/PR5. Affected people were invited to check the delineation of their land plot and to sign-off on the inventory in September/October 2014. At the time of this sign-off, landowners were also provided with information on the land-for-land option as an alternative to cash compensation, and were invited to think about their preferences between the cash and land options.

5.3 VALUATION

5.3.1 Land

93. The rural land market in the Caucasus region has a number of specificities, which tend to result in high land values. The market between local landowners is not very active and land values tend to be distorted by a limited number of large buyers such as mining or agribusiness companies that are often prepared to pay higher values for land than the local farmers would ever be willing or able to pay. In valuing land for the Amulsar project, these specificities were taken into consideration in a way that is favourable to landowners.
94. A preliminary land valuation exercise was carried out by an experienced Armenian valuer familiar with both Armenian law and international requirements, under oversight from an international land acquisition specialist. In contrast with usual Armenian practice, land required for the Project is valued separately from crops, trees and structures, in line with usual international requirements and to ensure better transparency of the valuation for affected landowners. This preliminary valuation of land was based on the comparative method. So-called “analogue” transactions were identified for each broad category of land (see below) and calculations were made to arrive at a preliminary replacement value for each of the main three categories of land, i.e. (1) arable, (2) gardens and orchards, and (3) pasture and hay land. However, this first valuation was made difficult by the fact that few analogue transactions could be identified in the vicinity of the Project as the land market is not very active in rural areas of Armenia in general, and also because values registered at the cadastre may be understated for fiscal reasons.

95. Preliminary values arrived at by the comparative method were reviewed against other internationally funded projects in Armenia (notably the North South Corridor funded by the Asian Development Bank) and in comparable areas of neighbouring Georgia. Preliminary values were corrected (generally significantly increased) to reach consistency with these. At about 40 US cents per square metre of high mountain, non arable pasture land and about 2 US dollars per square metre of arable land, values used for the Amulsar project compare very favourably with values typically used in Western and Eastern Europe for similar land.
96. In addition to categorising each plot within the three categories above based on actual land usage, the valuer inspected plots for specificities such as slope, stones, access, etc... Importantly, all arable and garden/orchard plots are valued as irrigated, even where the final section of the irrigation network towards the plot may be dysfunctional.
97. The transaction cost is not included in the value of the land as all costs related to notary fees and re-registration of the land after its purchase by Geoteam will be covered directly by Geoteam. The same applies to any taxes that may be due on the transaction, which per Armenian regulations are covered directly by the purchaser.
98. The ranges of values used for land are shown in the following table:

Table 5. Land Compensation Rates

Land category	Average rate		Minimum rate		Maximum rate		Median rate	
	AMD/m ²	USD/m ²	AMD/m ²	USD/m ²	AMD/m ²	USD/m ²	AMD/m ²	USD/m ²
Arable	457	1.11	173	0.42	690	1.68	513	1.25
Orchard/Garden	904	2.21	729	1.78	998	2.43	903	2.20
Pasture/Hay	169	0.41	155	0.38	185	0.45	174	0.43

Note: at the time of the initial compensation rate estimates, the exchange rate valid in Q3 2014, i.e. AMD 409 / 1 USD, was applied.

5.3.2 Trees

99. Trees are valued based on the income loss method, which is an accepted way of calculating replacement cost: compensation is meant to offset the loss of income experienced by the tree owner as a result of the removal of the tree. The compensation formula is the following:

$$\text{TrC} = (\text{RP} \times \text{YD}) \times \text{YR} + \text{CS} + \text{InpC}$$

Where:

TrC: Compensation per tree in AMD

RP: Retail price of product (AMD/kg)

YD: Average yield of tree (kg/tree)

YR: Period needed for a new seedling to be re-established to the yield of the tree lost

CS: Cost of replacement seedling (AMD/seedling)

InpC: Input costs to develop seedling (e.g. labour, transport fertilizer, pesticides, etc. – AMD/tree).

100. Prices of fruit have been gathered using the following sources:
- Official statistical data of market prices in Yeghegnadzor (the capital of the marz where the Project is located) for years 2009 to 2014;
 - Information communicated by sources in Gndevaz on apricot prices in 2014 and previous years;
 - Information communicated by sources in Yerevan on buying prices in the Vayots Dzor marz of both annual and perennial crops.

101. Yields have been gathered from reliable agronomic sources, including Armenian research institutes, independent specialists, and NGOs involved in agricultural development.
102. All data have been compared to those used in other projects seeking compliance with international resettlement and compensation standards, such as the North South Corridor currently being implemented with finance from the Asian Development Bank.
103. Table 6 below presents the detailed calculation of compensation rates for trees, including all fruit and other trees identified in the Project affected area.

5.3.3 Annual Crops

104. Annual crops observed in the Project-affected area mainly include: spring wheat; spring barley; maize (used for silage); sainfoin (*Onobrychis*); various garden crops (essentially but not only in the part of the affected area located closest to Gndevaz village immediately to the East of the main paved road). A significant part of the affected area (all the higher portion) is covered by natural grass, which is either cut for hay in plots that are accessible, or simply used as pasture. Some plots have a mix of crops, including apricot orchards where grass is cut for hay.
105. Annual crops are valued at market price based on the average yield in the area (agronomic survey to be organised by the valuer) and the average market price at the time of harvest in the area. Table 7 below provides the details of calculations.

5.3.4 Structures

106. Structures are very few in the Project affected area and were valued on a case-by-case basis by the professional valuer hired by Geoteam. Most of the structures are old buses or wagons used as shelters in bad weather and sheds for agricultural tools and located in one corner of the land plot. These would in principle be moveable, but in fact moving them would usually be hazardous, potentially costly, and technically difficult (they often have appendages such as small “verandas” of masonry, wooden planks and other materials).

5.3.5 Consultation on Valuation of Affected Assets

107. A public consultation meeting was organised on 22nd August, 2014 to present the principles of the GLAC, including the valuation of affected land and affected crops. One observation was offered by attendants in respect of valuation of apricot trees (have four age categories rather than three to better reflect differences in the development stages of the orchards). This suggestion was taken into consideration and the crop compensation tariff was modified accordingly.

Table 6. Compensation Rates – Perennial Crops

Species	Category	Age category	Selling price of fruit (AMD per kg)	Yield (kg per tree per year)	Re-establishment period (years)	Value of lost production (AMD)	Cost of seedling (AMD)	Cumulated cost of labour, irrigation, fertilisers and other maintenance over the re-establishment period (AMD/tree)	Total (AMD)	Total (USD @ AMD/USD = 410)
Apricot	Seedling	0-1 years	900	-	1	-	1,200	5,600	6,800	17
абрикос	Non fruit-bearing young	2-3 years	900	-	5	-	1,200	28,000	29,200	71
	Non-fruit bearing older	4-5 years	900	15	5	67,500	1,200	28,000	96,700	236
	Fruit-bearing	6 years and more	900	50	6	270,000	1,200	33,600	304,800	743
Apple	Seedling	0-1 years	500	-	1	-	1,200	5,600	6,800	17
яблоко	Non fruit-bearing	2-4 years	500	-	4	-	1,200	22,400	23,600	58
	Fruit-bearing	5 years and more	500	50	5	125,000	1,200	28,000	154,200	376
Plum	Seedling	0-1 years	300	-	1	-	1,200	5,600	6,800	17
слива	Non fruit-bearing	2-4 years	300	-	4	-	1,200	22,400	23,600	58
	Fruit-bearing	5 years and more	300	30	5	45,000	1,200	28,000	74,200	181
Pear	Seedling	0-1 years	1,500	-	1	-	1,200	5,600	6,800	17
груша	Non fruit-bearing	2-4 years	1,500	-	4	-	1,200	22,400	23,600	58
	Fruit-bearing	5 years and more	1,500	60	5	450,000	1,200	28,000	479,200	1,169
Peach	Seedling	0-1 years	350	-	1	-	1,200	5,600	6,800	17
персик	Non fruit-bearing	2-5 years	350	-	5	-	1,200	28,000	29,200	71
	Fruit-bearing	6 years and more	350	40	6	84,000	1,200	33,600	118,800	290
Mulberry	Seedling	0-1 years	1,000	-	1	-	1,200	5,600	6,800	17
тупа	Non fruit-bearing	2-5 years	1,000	-	5	-	1,200	28,000	29,200	71
	Fruit-bearing	6 years and more	1,000	40	6	240,000	1,200	33,600	274,800	670
Walnut	Seedling	0-1 years	1,300	-	1	-	1,200	5,600	6,800	17
орех	Non fruit-bearing	2-7 years	1,300	-	7	-	1,200	39,200	40,400	99
	Fruit-bearing	8 years and more	1,300	50	8	520,000	1,200	44,800	566,000	1,380
Almond	Seedling	0-1 years	1,000	-	1	-	1,200	5,600	6,800	17
миндаль	Non fruit-bearing	2-4 years	1,000	-	4	-	1,200	22,400	23,600	58
	Fruit-bearing	5 years and more	1,000	20	5	100,000	1,200	28,000	129,200	315
Hazelnut	Seedling	0-1 years	1,000	-	1	-	1,200	5,600	6,800	17
фундук	Non fruit-bearing	2-4 years	1,000	-	4	-	1,200	22,400	23,600	58
	Fruit-bearing	5 years and more	1,000	10	5	50,000	1,200	28,000	79,200	193
Grape	Seedling	0-1 years	500	-	1	-	1,200	5,600	6,800	17
виноград	Non fruit-bearing	2-5 years	500	-	4	-	1,200	22,400	23,600	58
	Fruit-bearing	6 years and more	500	3	5	7,500	1,200	28,000	36,700	90
Sour cherry	Seedling	0-1 years	500	-	1	-	1,200	5,600	6,800	17
вишня	Non fruit-bearing	2-5 years	500	-	5	-	1,200	28,000	29,200	71
	Fruit-bearing	6 years and more	500	30	6	90,000	1,200	33,600	124,800	304
Cherry	Seedling	0-1 years	1,000	-	1	-	1,200	5,600	6,800	17
черешня	Non fruit-bearing	2-5 years	1,000	-	5	-	1,200	28,000	29,200	71
	Fruit-bearing	6 years and more	1,000	50	6	300,000	1,200	33,600	334,800	817
Quince	Seedling	0-1 years	500	-	1	-	1,200	5,600	6,800	17
айва	Non fruit-bearing	2-4 years	500	-	4	-	1,200	22,400	23,600	58
	Fruit-bearing	5 years and more	500	30	5	75,000	1,200	28,000	104,200	254
Poplar	Seedling	0-1 metre			1	-	200	-	200	0
тополь	Young	1-5 metre			5	10,000	200	-	1,000	2
	Adult	20 m and more			6	20,000	200	-	30,000	73
Ash (Fraxinus)	Seedling	0-1 metre			1	-	200	-	500	1
ясень	Young	1-5 metre			5	10,000	200	-	2,000	5

Table 7. Compensation Rates – Annual Crops

Crop	урожай	Yield	Yield	Market price	Compensation rate
		урожайность	урожайность	оптовая цена	компенсационная стоимость
		kg/m2	quintal/ha	AMD/kg	AMD/m2
Wheat	пшеница	0.25	25	250	63
Barley	ячмень	0.25	25	220	55
Maize (silage, dry matter)	кукуруза (силосная)	1.20	120	30	36
Sainfoin (dry matter)	эспарцет	0.70	70	50	35
Clover (dry matter)	клевер	1.20	120	50	60
Hay (natural grass - dry matter)	сенокос (естественная трава)	0.45	45	40	18
Potato	картофель	3.00	300	230	250
Beans	фасоль	1.20	120	400	480
Tomato	помидор	6.00	600	350	2,100
Cucumber	огурец	4.00	400	350	1,400
Pepper	перец	3.00	300	350	1,050
Carrot	морковь	2.50	250	400	1,000
Cabbage	капуста	4.00	400	140	560
Aubergine	баклажан	2.10	210	350	735
Garlic	чеснок	1.60	160	1,100	1,760
Onion	лук	2.00	200	350	700
Beet	свёкла	3.00	300	400	1,200
Strawberry	клубника	5.00	500	700	3,500
Currant	смородина	3.00	300	1,000	3,000
Raspberry	малина	3.00	300	1,000	3,000
Pasture	пастбища				20

5.4 COMPENSATION OF LAND USERS

108. Where land users are identified, compensation for land will be paid to landowners and compensation for crops and any structures that the land users can demonstrate ownership of will be paid to land users.

5.5 REPLACEMENT LAND

109. All landowners are offered a land-for-land option in addition to the cash compensation option mandated by Armenian law. At the point of submitting this document, only a limited number of landowners (assessed as of January 2015 around 10 in total) have indicated that they would be interested in support from Geoteam in securing replacement land in lieu of cash compensation. Given the limited number of people to date that have displayed interest in this option, this will be negotiated on an “à la carte” basis, with the following possibilities:
- Compensation in cash per usual provisions, and support from Geoteam in identifying one or several replacement land plots that the landowner may be willing to sell, with further support in the transaction;
 - Facilitation of auction sales or auction leases by the three municipalities in the Project area to private land owners or land users (this is unlikely to interest land users other than for pasture and hay as municipalities own only such land in high mountain areas and hold little proper arable or orchard land);
 - Provision of a land plot in lieu of the land compensation, while the rest of the compensation (crops and trees) is paid in cash – with Geoteam essentially identifying the land plot, purchasing it, and transferring it to the affected landowner;
 - Provision of a land plot in lieu of both land and crop compensation.
110. Geoteam has identified a few land plots in Northern Gndevaz (roughly 20 ha) that are in the ownership of the Municipality of Gndevaz and were previously used as an orchard. The acquisition of this land was discussed with the Municipality of Gndevaz, and while an agreement in principle was obtained, such municipal land can only be acquired through an auction process. Geoteam is currently working with the Municipality to support putting an irrigation system in place so the area will be irrigated and conducive for farmers to start new orchards or other agricultural activities, as part of the land for land compensation option.
111. Supplemental details on land for land transactions are provided in section 6.1 below.

5.6 CONVEYOR EASEMENT

112. 83 private land plots (total surface area: 45.3 hectares) are affected by the conveyor (30 metre wide strip taken for the life of the mine, then restored and handed back to the landowner). The affected strip within these plots will be compensated pursuant to an easement agreement. Compensation will be at full land acquisition rates (see Table 5 above), with any crops (the area is mainly pasture and some hay) compensated at full rates per Tables 6 and 7 as well.

5.7 “ORPHAN” LAND

113. Orphan land is land that is severed or bisected such that the remaining portion of the parcel becomes uneconomic and/or unviable. This may particularly apply in the case of the conveyor right-of-way. Where plots are affected partly in a manner that leaves an uneconomic or unviable remainder, the whole plot is purchased and compensated.

5.8 NEGOTIATED SETTLEMENT PROCESS

5.8.1 Compensation Offer

114. Compensation offers will be prepared for each affected property based on the inventory and the valuation described above. They will be kept confidential (restricted circulation within the Company) until they are disclosed to the affected landowner or land user.

115. In cases where the landowner does not use the land and there is a different land user, land compensation will be offered to the landowner, while crop and tree compensation will be offered to the land user. This also applies to land users farming on municipal land.

5.8.2 Negotiated Settlement Process

5.8.2.1 Process

116. A three-visit process is implemented:

- In the first visit, the landowner is invited to sign a Measurement and Count Sheet reflecting the measurements and counts of trees and crops done earlier in the land parcel, and to notify Geoteam of the presence of any land users; contact information for co-owners is gathered, and the land for land option is explained a first time; this stage was implemented by Geoteam in October 2014.
- In the second visit, the team will visit each affected landowner or land user at their home or request them to come to the field office, check their identification documents and take a copy, explain the process again, including the land for land option, inform them of the grievance mechanism, present the compensation offer and agreement (prepared beforehand), and leave the compensation offer with the affected person for her/his consideration; in case there are co-owners who do not live in the village, they need to be identified at this stage and any steps that the Company will have to take to contact them and/or ensure that a Power of Attorney is issued to one of the local co-owners have to be clarified; at this stage the land for land option is presented and explained again.
- In the third visit, to take place no earlier than 2 weeks and no later than 6 weeks after the second one, the team will visit each affected landowner again and seek to obtain their signature; the team should then be accompanied by a notary such that the transaction can be notarised on the spot (one or two notaries willing to participate in this work should be identified, possibly from Jermuk or another nearby town).
- During the consultation and negotiation visits, the Geoteam staff in charge of negotiations will be accompanied by a lawyer, who will be recording all details of the visit and taking minutes of the meeting
- Throughout the whole process, the Geoteam representative/ negotiator and the lawyer will be available to answer or clarify issues that might arise.

5.8.2.2 Agreements

117. Four types of agreements have been drafted in bilingual versions (Armenian/English) for submission to each individual landowner and landuser:
- A sale-purchase agreement for landowners, for all facilities where full security of tenure (perpetual irrevocable ownership) is required (those where reinstatement will be technically or economically impossible and those where infrastructure requires significant investment);
 - A crop compensation agreement for land users (also addressing structures in the few cases where structures are owned by a land user rather than the landowner)
 - A lease agreement for any temporary facilities; and
 - An easement agreement for the conveyor and other linear facilities of the same kind (transmission lines, pipelines), and for buffer zones where certain activities may be restricted.

5.8.3 Payment

118. In conformance with regulations, all payments will have to be made in Armenian Drams by bank transfer into the accounts of the respective beneficiaries (owner, co-owners, land user, as applicable) in the name of the beneficiary. Recipients will be requested to present bank information at the time that the Agreement is signed. If they do not have a bank account they would be assisted to establish one. In case spouses are co-owners and only one of the spouses has a bank account, the other spouse will have to open an account as compensation for one of the

spouses cannot be paid to the other spouse (unless they have a joint account certified as such by the bank). No compensation will be paid in cash. The Project is currently considering compensation in two payments (a first payment of 10% followed by a second payment of 90%).

119. In the vast majority of cases the recipient is a physical person (i.e. a household as opposed to a business entity). Armenian law mandates that in such cases, Geoteam will withhold and pay applicable taxes.
120. Payments of leases to Municipal budgets are done on a yearly basis.

5.8.4 Registration

121. Once the transaction is signed by both parties and notarised, the Company should address the transaction dossier to the Cadastral office. The Land Acquisition team lawyer will work with the notary office and the Cadastre to ensure a smooth completion process. It is recommended to interact beforehand with the Cadastre (at the start of the negotiations process):
 - To obtain a clear understanding of the documentation package they require for registration and the related process;
 - To give them prior notice that a sizable batch of transactions is forthcoming and will need to be handled swiftly, and to check that the resources are in place to process these transactions within a reasonable time period.

5.8.5 Use of Expropriation

122. While it is anticipated that expropriation will normally not be used, it may be triggered as a last resort in cases where all reasonable avenues to reach a negotiated settlement have been exhausted. This may apply, for example, to the following situations:
 - Absentee landowners or co-owners not providing a Power of Attorney, or whose whereabouts are unknown;
 - Landowners refusing engagement over a reasonable negotiated settlement after multiple visits.
123. The reasons why expropriation has to be used will be thoroughly documented (notarised minutes of disagreement in case of a refusal, and documentation of efforts to locate and contact absentee landowners).

5.9 MITIGATION OF ECONOMIC DISPLACEMENT IMPACTS ON HERDERS

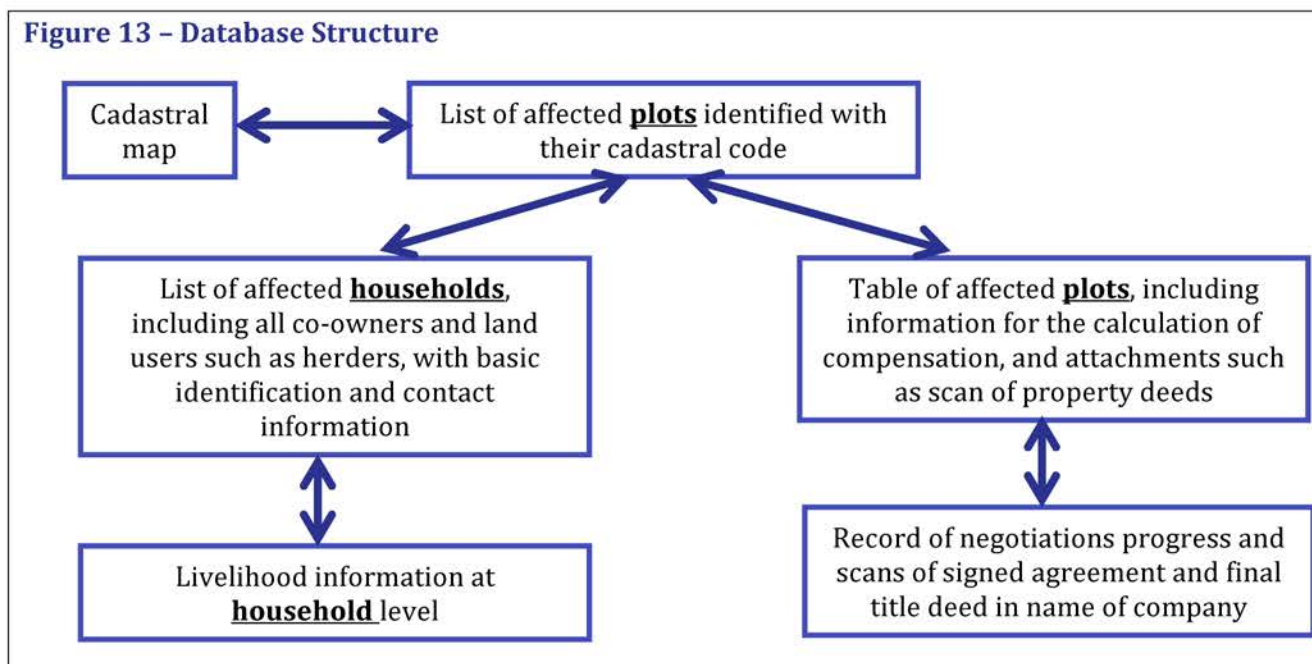
124. The scale of the displacement impact caused by the Project depends on the availability of alternative pasture and hay of equivalent quality and the inconvenience caused to the herders by restricting their access to pasture and hay land. Land of equivalent quality must be of a similar agronomic potential, have similar access to infrastructure and services used by the herders, including roads and tracks (used for the sale of dairy products), water sources and structures available for use for camps.
125. Potential livelihood impacts to herders will be mitigated through a variety of measures, based upon the nature of the impact experienced. The most important mitigation measure is Project design, whereby areas important to herders (for access, water supplies, pasture, accommodation or holding others values) have been avoided.
126. Should any herders be affected by the Project, the following mitigation measures will be implemented:
 - The Project will support herders to engage with community administrators to identify new equivalent lands available for rental, and monitor that access to similar land is actually achieved as of the summer of 2015 when construction starts;
 - If immovable structures are lost (e.g. buildings used as part of the pasture camps) and the herders can ascertain ownership or usufruct (even informal), the Project will provide cash compensation for the shelters;

- Herders who may be severed from land which they have been using will be supported by Geoteam in gaining access to new land parcels;
 - Geoteam will monitor livelihood impacts of these changes upon the herder communities by conducting an annual survey with clearly established indicators to evaluate material changes in livelihoods against the 2012 baseline;
 - If these surveys reveal material impacts on herders' livelihoods, Geoteam will enhance livelihood support measures meant for herders, particularly making sure that they can access replacement pasture land at reasonable conditions if this proved not to be the case, and
 - Opportunities to support animal husbandry improvements in the region through technical assistance towards enhancing milk and meat production and marketing will be reviewed in collaboration with herders. This could include improved refrigeration and collection of milk, artificial insemination and associated introduction of new genetic stock, etc...
127. In addition to the impact mitigation activities outlined above, the broader group of seasonal herders will be a target group for the livelihood enhancement programmes described in Chapter 6. Technical assistance will focus on increasing agricultural output and diversification of economic activities will be prioritised.

5.10 INFORMATION MANAGEMENT

128. Information needed for the land access programme is gathered and managed at two levels:
- At land plot level, because compensation entitlements are associated to land plots;
 - At household level, because livelihoods are measured and monitored at the level of households affected by loss of land.
129. The database must reflect this distinction. The link between the two data sets must be established through a coherent and simple numbering system, whereby a given land plot cadastral number corresponds to the identification numbers of all households that are affected by the loss of this particular plot in one way or other (landowner, land users, co-owners). The general structure of the database recommended to support and document this process is based on the plot cadastral codes, and should be as shown in the figure below:

Figure 13 – Database Structure



5.11 MITIGATING POTENTIAL GENDER IMPACTS OF CASH COMPENSATION

130. Most land plots are held jointly by a group of co-owners that includes all successors of the original owner (or co-owners), typically the children, which includes female successors. In such cases, Armenian law provides for no distinction between male and female co-owners and compensation is shared equally between all co-owners, including both male and female ones. In a very limited number of cases, and in virtue of the deceased original owner's will, shares in the affected land plot are not equal (for example property is shared between three co-owners with one holding 50% and the other two 25%): in such cases, compensation is shared according to the distribution of shares shown in the land title.
131. There are also cases where a land plot is held jointly by a married couple. In such cases, compensation is shared equally between the two spouses. The Project will be attentive to situations where the compensation of both spouses would be paid into a jointly held account, and spouses will be encouraged to open separate bank accounts, where possible.
132. A more delicate situation is that of a few land plots that were held jointly by a married couple, one of the co-owners (typically the husband) being deceased. In such cases, and unless there is a will, law mandates that the deceased co-owner's share be inherited by all legal inheritors, including both the spouse and all children according to equal shares. Such situations, which are few, will be reviewed specifically to avoid a situation where a female spouse could be deprived by the inheritance mechanism and the purchase by the Project of a land plot that was critical to her livelihood. Where such situations arise, the female spouse will be registered as vulnerable and will become eligible to assistance meant for vulnerable peoples, including the possibility to be allocated a replacement plot.

6. LIVELIHOOD RESTORATION

6.1 LAND-FOR-LAND

133. Initial consultation with villagers indicates that most affected people are likely to opt for cash compensation for their land and crop, and will handle their own livelihood restoration themselves, through the purchase of equivalent agricultural land or other business ventures. The Project will monitor livelihood restoration and check that these households are not worse-off and preferably better-off (see detailed monitoring provisions, including corrective actions that may need to be taken in case monitoring shows that livelihoods are not restored, in Chapter 9).
134. However, there are also indications that a few households (about 10 according to information available as of January 2015 and based on face to face interviews with each and every landowner) could be interested by a land-for-land option. The Project will accommodate such requests in line with the requirements of international lenders. There is not much replacement land available in Gndevaz that could be suitable for apricot cultivation, but there is some, in two areas (see Figure 14 below):
- To the North of the residential area of the village (towards Jermuk), in the area where Geoteam CJSC have established their tree nursery;
 - To the South of the village on the Western side of the main road from Vayk to Jermuk.

Figure 14 – Location of Areas with Available Agricultural Land in Gndevaz



Source of background image: Google Earth

135. The following process will be applied for those households who are interested by land-for-land rather than cash compensation:
- Application for land-for-land at the time of the early visits by the land acquisition team;
 - In the time period between these visits and the finalisation of the transaction, Geoteam CJSC will identify suitable alternative land, and will organise a swap transaction between the affected landowner and the owner of the identified replacement land plot.
136. For those households opting for replacement land, Geoteam will be able to supply seedlings of apricot or other fruit trees. In order to incentivise the allocation of land in lieu of cash compensation, Geoteam will also ensure that an irrigation system is operational at replacement land sites, such that apricot cultivation can resume normally, and provide apricot tree seedlings (currently under production at the Geoteam nursery in Gndevaz). An engineering study is currently being undertaken in coordination with the Municipality to provide for the extension to the Northern site shown in the figure above of an irrigation network located near-by. Local

experts and an agronomist have already conducted an assessment of the land quality of the selected site and confirmed its high potential and suitability for orchards, gardening and other agricultural activities.

137. Vulnerable individuals will be offered access to a replacement plot of reasonable size to ensure that their livelihoods are not compromised by the land access process. Subject to legal verification, such land will be land under a free-of-charge lease from Geoteam (being the landowner in such situations). This will specifically include women who might be left without a critical source of livelihood as a result of the inheritance process applied to an affected land plot upon purchase by the Project (see paragraph 132 for details).

6.2 SPECIFIC ACTIVITIES FOR HERDERS

138. Geoteam is already implementing an animal husbandry programme (see below section 6.3.3) that will target, amongst others, affected herders. In addition, the following activities will be implemented to facilitate affected herders' access to alternative pasture and livelihood restoration:
 - Herders will be contacted individually well ahead of any construction activities with potential to affect their grazing land and at any rate in the first half of 2015;
 - A meeting will be organised between the Company and Gorayk municipality to identify alternative grazing land unaffected by construction activities;
 - An information meeting will be organised before spring for herders with the municipality of Gorayk and the Company to deliver information about areas that can safely be used for grazing in the spring and summer of 2015;
 - All herders will be contacted to propose assistance in negotiations with local municipalities to identify and obtain allocation of replacement pasture land under a secure, formal lease agreement;
 - Geoteam will cover any transaction cost associated with these formal agreements;
 - Herders will be individually monitored during 2015 and further to check that they experience no disturbance as a result of construction activities, to facilitate the signing of lease agreements for grazing land with the Gorayk or other municipalities, and to correct any disturbance in the event that monitoring should identify that some herders have been unable to smoothly re-establish.

6.3 LIVELIHOOD RESTORATION PROGRAMMES

6.3.1 Overview

139. Within a broader programme of CSR activities that also includes cultural and educational activities, Geoteam CSJC has been implementing for several years a number of livelihood oriented projects in the Project affected communities with support from local NGOs. These include training in improved agricultural and animal husbandry techniques, as well as the provision of equipment in support of these improvements. These projects are to continue over the few coming years. Details are provided below.

6.3.2 Gndevaz Fruit Drying Project

140. This project started in May 2014 and includes the following components:
 - Establishment in Gndevaz community of a cooperative of fruit growers: as of July 2014, the Cooperative is in place with about 35 active members. It has been registered with the relevant authorities, and capacity building in cooperative management has taken place. Office space has been provided by the Municipality of Gndevaz adjacent to the village kindergarten, and these premises were renovated with support from Geoteam CJSC.
 - To support fruit drying and allow farmers to market fruit outside of the main season, two fruit drying machines and one packing machine were provided. The implementation

organisation (CARD) provides a specialist to train cooperative members to the operations and maintenance of this equipment, as well as quality control of the finished product.

141. The first fruit were brought into the drying process in July 2014. The project is implemented by the Centre for Agribusiness and Rural Development Foundation (CARD), a reputable private Armenian organisation specialising in support of agri-business initiatives. The budget is a yearly USD 50,000, including training, equipment, a small grant to the cooperative to cover initial expenditures, and the renovation of the premises.
142. This project has been successful in the following aspects:
 - A cooperative was established;
 - Capacity of participating farmers was enhanced both from a management and technical perspective;
 - Quantative training objectives were met (trainings on cooperative management and on fruit drying techniques)
 - Supplies, equipment and basic office furniture were provided to the newly established Cooperative.
143. Further stages of this project will need to address the following challenges:
 - The overall fruit drying objective (in terms of kilograms of dried fruit) was not met, essentially by reason of low apricot production in 2014, which led farmers to sell fresh apricot rather than seeking to dry them;
 - Some teething issues, particularly the perception developed by some participants that they would get a salaried job;
 - These factors are taken account of in the design of further phases of the project for 2015, with more reasonable quantitative objectives and more focus on cooperative management training. A proper monitoring system was established, with a number of relevant output and outcome indicators;

6.3.3 Gorayk Animal Husbandry Project

144. This project targets cattle owners and herders from Gorayk, some of whom are potentially affected by land take around the mine. This activity started in February 2014 as a pilot project with a small budget of about USD 9,000. A local veterinarian working from a neighbouring village was hired as a consultant by Geoteam CJSC to provide technical advice to Gorayk farmers and herders in the following areas:
 - Artificial insemination: equipment was purchased and sperm from the USA was imported to improve the local genetic stock, two local technicians based in Gorayk were trained to carry out artificial insemination themselves;
 - Other training is provided by the veterinarian and the two technicians on cattle housing, animal feed, and animal health, including demonstrations. 70 individuals from Gorayk were trained.
145. The project has met its objectives in the following aspects:
 - Training and capacity building for local cattle breeders: quantitative objectives met;
 - Training of trainers (local vet technicians): quantitative objectives met;
 - Practical skills learning (artificial insemination now performed by local technicians);
 - Technical equipment provided to local technicians for their use in the community and beyond;
 - Number of artificial inseminations actually performed: to date, a 73% success rate (actual birth vs insemination) was recorded and 180 farmers have benefitted.
146. The Gorayk mayor has requested Geoteam CJSC to continue support in the coming few years. This could possibly evolve into a permanent service centre established as a small business and providing technical advice and artificial insemination services. The possibility to establish milk

collection centres (with refrigerated tanks) will be investigated as this would enhance marketing possibilities for herders and other livestock owners.

6.3.4 Gorayk Gardening Project

147. This project is in its third year of implementation in 2014, with slight changes in the programme of garden crops introduced every year. The project has essentially introduced 50 families from the village of Gorayk to gardening technologies, with a focus on beans and potatoes. Mechanisation was introduced, as well as improved seeds and cultivation techniques. Yields have greatly improved (250% for beans and 200% for potatoes).
148. In 2013, two pilot greenhouses were built to develop cucumber, tomatoes, eggplant, broccoli. Following this successful introduction, eight more greenhouses were installed in 2014. The project also organises periodic training sessions and demonstrations for the benefit of members.
149. Each beneficiary contributed about AMD 100,000 to the cost of greenhouse construction. The project is implemented by local NGO "Human Dignity and Peace Foundation" under supervision from Geoteam. Most beneficiaries are female.

6.3.5 Income-Generation for Local Women

150. A specific income-generation project targeting women is currently considered in the Project area by NGO "Zangagatun". The initiative would support women in the hand making of bags using plastic waste, and provides education and awareness on waste management and marketing of items. Geoteam is reviewing the NGO proposal in view of implementation as part of its overall livelihood restoration efforts.

6.3.6 Tree Nursery

151. Geoteam has established three tree nurseries in view of future mitigation of potential visual impacts of the mine, reclamation of disturbed areas, as well as general embellishment of the communities. One nursery is located in Gndevaz and two in Saravan. This activity provides part time employment to about 15 women.

6.3.7 Employment and Skills Development

152. Geoteam has put in place a local recruitment procedure to prioritise locals for any position offered by the Company. Any job offered by the Company is advertised in the three Project affected communities. This process has been successful and most people working for Geoteam at the site are actually locals, including all community workers, with the exception of a few specific technical positions. Such a procedure will be extended to contractors working at the site during the construction phase and is expected to provide jobs for several tens of local people for the duration of construction. A local teacher is organising preliminary courses in technical skills such as electricity with support from Geoteam. This type of activity will be developed further based on the skill basis survey.
153. Geoteam has also undertaken with a specialised consultant (Social Capital Group) a survey of the local skill basis in view of its development for employment. The Amulsar Project will promote employment and contracting in its direct area of influence during both construction and operations. It will require a target to employ approximately 300 of its estimated 1300 construction workers coming from the direct area of influence. It will also require to maximize the operational workforce hiring from the same area targeting that at least 30% of its the total operational workforce come from the direct area of influence. Amulsar is establishing a Training Program in order to support meeting these requirements and also develop an effective, efficient and committed workforce.
154. The Project is in the process of defining the different specializations and numbers of workers that will be required during the construction and operations. It expects to define an estimate of the construction requirement by end of March 2015, but final requirements will be determined by the individual contracting companies building the site. It should define the operational requirement during the second semester of 2015.

6.4 LIVELIHOOD MONITORING

155. Lenders require livelihood monitoring after a certain period of time, specifically a comparison of livelihood information in the post project situation to the baseline situation (hence the baseline gathered through the socio-economic survey presented above in section 4.2). The following is recommended:

- Periodic monitoring per provisions in Chapter 9;
- Replication of the same socio-economic survey three years after the land acquisition process is complete with comparison of the new data to the baseline to determine whether livelihoods have been re-established, as part of a “Completion Audit” exercise as described in section 9.4.2;
- Monitor and address any hardship that may disproportionately affect vulnerable people;
- As mentioned above (section 6.2 above), a specific monitoring exercise will be carried out for herders.

7. VULNERABLE PEOPLE

7.1 DEFINITION

156. **Vulnerable people** are people who by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage, or social status, may be more adversely affected by the land acquisition process than others and who may be limited in their ability to claim or take advantage of compensation.
157. In the context of the Amulsar project, potentially vulnerable people include:
- Disabled persons, whether mentally or physically;
 - Seriously ill people;
 - The elderly, particularly when they live alone;
 - Households whose heads are female and who live with limited resources;
 - Households who have no or very limited resources;
 - Widows, particularly when they may be deprived of a land plot that was critical to their livelihoods (see paragraph 132) and orphans
158. There are no Internally Displaced People in the Project affected communities. Nor are there representatives of minority ethnic groups.

7.2 IDENTIFICATION OF VULNERABLE PEOPLE

159. A pre-identification of potentially vulnerable people has been carried out during the livelihood survey exercise (see section 4.4 above). This pre-identification will be complemented during the negotiation process and will result in a final identification of vulnerable people. Inputs will also be sought from local authorities (local mayors).

7.3 ASSISTANCE TO VULNERABLE PEOPLE

160. Working with relevant local authorities, Geoteam will seek to ensure that no vulnerable people are disproportionately affected by the land acquisition process. The following activities will be implemented in cooperation with local authorities in respect of vulnerable people affected by the Amulsar project:
- Assistance during the land acquisition and negotiation process, including, at the stage of plot and landowner identification, specific individual meetings to explain eligibility criteria and entitlements, clauses in compensation agreements, grievance avenues;
 - Insistence on the land replacement option where it is obvious that the affected land is critical to the household's livelihood;
 - Assistance in the payment process (provision of transport to the bank effecting compensation payment, support in the payment procedure, money management awareness, etc...);
 - Prioritization for training courses to enhance employability and prioritization for employment by contractors where possible and subject to contractors' operational needs.
161. Assistance to vulnerable people will also include the possibility to access a replacement land plot under free-of-charge lease arrangement per provisions described in paragraph 137 above.

8. ENGAGEMENT AND GRIEVANCE MANAGEMENT

8.1 STAKEHOLDER ENGAGEMENT PLAN

162. Geoteam is committed to implementing the requirements of IFC, EBRD and ADB on meaningful engagement and consultation. A Stakeholder Engagement Plan (SEP) was developed in 2012 in order to guide stakeholder consultations and communications during the development and execution of the Project, while also meeting IFC and EBRD requirements. The SEP has been regularly updated with the latest version completed in February 2015. It will be updated annually, to provide a roadmap for engagement during construction and operation. The Company is fully committed to the integration of environmental and social considerations in the design and development of the Amulsar Project, as well as establishing and maintaining constructive relationships with all stakeholders, including the communities surrounding the Amulsar area.

8.2 ENGAGEMENT ACTIVITIES TO-DATE

163. The following consultation activities have already been implemented in regards of land access and compensation:
- Land access scoping meetings in March 2013 with potentially affected landowners in all three potentially affected communities to provide preliminary information on the land access planning process;
 - Numerous face-to-face interviews and information sharing meetings with all three mayors between March 2013 and August 2014;
 - Training of the Gndevaz-based community liaison staff on the basics of the land access process for them to be able to convey simple messages and to answer simple queries from affected people;
 - Livelihood surveys (June-July 2014) where all potentially affected landowners were met on an individual basis by Geoteam community liaison personnel, which provided an opportunity to the Project team to deliver essential information on the land access process, particularly with regards to documents that needed to be provided to the team;
 - Disclosure through the Gndevaz Information Centre of a Guide to Land Acquisition and Compensation (GLAC) in July 2014, a simply worded document providing all essential information on the land access and compensation process;
 - Disclosure of the initial Guide to Land Acquisition & Compensation through Geoteam monthly newsletter for July 2014;
 - Distribution of the GLAC to 1000 households in 4 communities (Gndevaz, Gorayk, Saravan, Jermuk);
 - Ecosystem services survey with Geoteam staff and experts in 4 communities and herders in project site (assessment of ecosystem services use and information about the land acquisition, particularly for herders);
 - Public information meeting on 22 August, 2014 in Gndevaz, where all affected people were given an opportunity to receive in verbal form and in a meeting format information contained in the GLAC;
 - Face-to-face interviews and information sharing meetings with about 20 landowners on 22 August, 2014;
 - Collection of sign-off sheets from each landowner (September/October 2014), clarifying their questions and collecting their feedback; and
 - Disclosure of the final Guide to Land Acquisition & Compensation in January 2015.
164. Following feedback received in meetings, particularly the August 2014 ones, the compensation formula for apricot trees (a sensitive subject in Gndevaz) was modified and an additional age category was introduced to accommodate observations made by affected landowners about apricot tree compensation.

8.3 SPECIFIC ENGAGEMENT PLAN FOR LAND ACCESS ACTIVITIES

165. Geoteam will continue engagement activities around land access and compensation, building on those implemented to-date and on the generally positive reception of the GLAC disclosed in August 2014 and its revision in January 2015.
166. The key engagement activity going forward will be the submission of individual compensation agreements in face-to-face interactions with landowners and land users, per the three-visit process described in section 5.8.2.1.:
167. Further details on the schedule of these engagement activities are provided in Section 10.3.
168. In addition, should collective issues arise such as the apricot compensation issue resolved in August 2014, and based on feedback from local authorities or individual landowners, additional community meetings may be organised on an “as needed” basis.
169. Potentially affected herders, of whom Geoteam holds a full list with contact information, will be contacted ahead of Geoteam occupying pasture land that they were found to use. A notice of three months will be given such that, with Company support, they can make arrangements to secure alternative leases or other arrangements giving them rights to occupy equivalent pasture land.
170. The GLAC has been updated to reflect in detail the land for land option: it will be held available at the Amulsar Information Centre to all interested parties during the whole land access exercise.

8.4 GRIEVANCE MANAGEMENT

8.4.1 Overview

171. The grievance management system is guided by the following principles:
 - Accessible and easy to use;
 - Transparent and accountable;
 - Warrant appropriate protection to complainants through a commitment to keeping grievances confidential.
172. Geoteam will apply the following principles in respect of grievance management and redress in the context of the Amulsar project:
 - Any grievance will be registered, acknowledged receipt of within 7 calendar days of its receipt, responded to within 30 calendar days of its receipt, and tracked until it is closed;
 - The grievance management arrangement will include two tiers of extra-judicial, amicable review and settlement, with the first one internal to the implementing agency, and the second one either fully external or as a minimum with involvement of external parties; the third tier of the mechanism is the judicial system;
 - The overall objective is to avoid resorting to the judicial system for as many grievances as possible.
173. The following figure presents an overview of the three tiered grievance management mechanism that the Project will put in place.

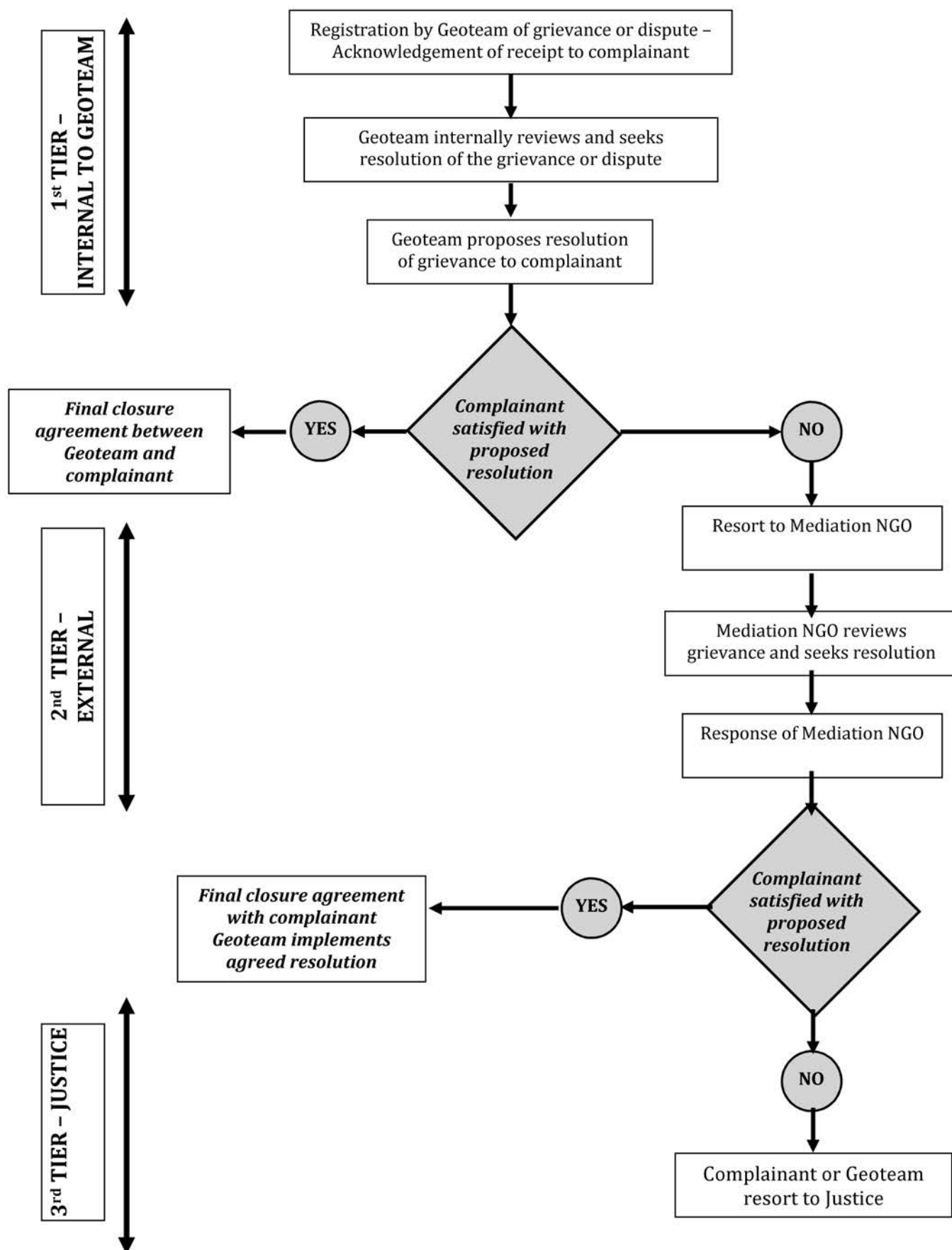
8.4.2 Anticipated Categories of Grievances

174. In practice, grievances and disputes that may be anticipated for the Amulsar land acquisition programme are the following:
 - Misidentification of properties (allocation of a property to the wrong owner due to wrong cadastral information and/or deliberately misleading statements);
 - Disputes over plot limits, between affected person and Project or between two neighbours;
 - Disputes over the ownership of a given property (two or more individuals claim to be the owner of this property);
 - Disagreement over the valuation (either unit rate applied or count) of a plot, crop or structure;

- Post cut-off establishment of a plantation, structure or other asset, whether deliberate (opportunistic occupation in anticipation of compensation) or not;
- Absentee landowners;
- Confusion between legal occupants and informal occupants;
- Forged documents (identification, ownership or others);
- Deceased estates and unresolved successions, divorces, and other family issues, resulting in disputes between heirs or shareholders in the disputed property, particularly when such occur after identification and before payment;
- Damages occurring during construction;
- Unsatisfactory reinstatement of temporarily used land.

8.4.3 First Tier (Internal) of Grievance Management

175. Geoteam will establish a register of grievances, which will be available to PAPs at the following venues:
 - Geoteam offices in Yerevan;
 - The Amulsar Information Centre located in Gndevaz in the Project affected area.
176. The existence of the grievance register, as well as avenues and procedures to lodge a complaint (where, when, to whom, etc.), has already been broadly communicated to Project Affected People through the Guide to Land Acquisition and Compensation (GLAC) and Geoteam periodic newsletters.
177. Receipt of grievances registered at these offices or sent to the Company in written form will be acknowledged within 7 days and a response will be provided to the aggrieved party in a maximum of 30 days.
178. For each grievance, an electronic grievance file will be opened, including the following elements:
 - Initial grievance sheet (including the description of the grievance), with an acknowledgement of receipt handed back to the complainant when the complaint is registered;
 - Grievance monitoring sheet, mentioning actions taken (investigation, corrective measures);
 - Closure sheet, one copy of which will be handed to the complainant after he/she has agreed to the resolution and signed-off.
179. Grievance review will typically include the following steps:
 - Allocation of the grievance to a designated officer for review and resolution proposal;
 - Review of identification files;
 - Review of disputed properties, disputed boundaries, or property characteristics in the field, as applicable, and hearing of interested parties (the complainant and third parties as need be);
 - Review with external parties such as Municipalities and Cadastral Bureau;
 - Meeting within the implementing agency of staff involved in the grievance resolution (including those who participated in the census if needed), and decision on proposed resolution;
 - Approval of the proposed decision by Geoteam management;
 - Drafting of a response letter to complainant.

Figure 15 – Principles of the Grievance Management and Redress Mechanism

180. The “close-out” of a grievance at the level of the first tier will be sanctioned by a document, whereby the complainant acknowledges receipt of the letter including proposed resolution, mentions whether he/she is satisfied or not, and/or requests escalation to the second tier of grievance management.

8.4.4 Second Tier (Independent) of Grievance Management

181. The second tier aims at processing grievances that the first tier is unable to resolve, and at identifying solutions, which if agreed will be binding to both the implementing agency and the complainant(s). The objective is to avoid resorting to the judicial system and try to reach amicable settlements wherever possible. No grievance will be considered by the second tier unless it has already been reviewed by the first tier.
182. The second tier of grievance management will be handled by an external entity such as a Armenian NGO (“Grievance NGO”) to be selected based on the following criteria:
- External to Geoteam;
 - Experience in working in rural and urban areas and in land issues;
 - Capacity to deploy staff in the Amulsar project region.
183. The Grievance NGO will review the grievance with all interested parties. Minutes of meetings, including proposed resolution arrangements, records of decisions, agreements reached, will be prepared.
184. In case this mechanism will not allow reaching a settlement, either the complainant or Geoteam can resort to Justice. Resorting to Justice is possible for the complainant at any stage in the process of grievance management, in conformance with Armenian law. Cases could involve a landowner or land user and Geoteam, or two private parties outside of Geoteam in case a dispute would arise between two landowners, for example on boundaries or shares in the property.

9. MONITORING AND EVALUATION

9.1 OVERVIEW

185. Monitoring and Evaluation are key components of the land access process. The Monitoring and Evaluation process examines what worked with the process and why, what did not and why not, and what adjustments, changes or corrective actions need to be made. Monitoring⁸ is the measurement through time that indicates the movement toward the objective or away from it. Monitoring provides the raw data to answer questions. Evaluation is putting those data to use, thus giving them value. From a practical perspective the aim is to identify the need for any changes or corrective actions that need to be made to reach the ultimate objectives, particularly fair compensation and livelihood restoration.
186. Monitoring and Evaluation are typically divided into three components, defined below
- Input monitoring,
 - Output monitoring,
 - Outcome evaluation.
187. Input (or progress) monitoring: Measures whether inputs are *delivered* on schedule and as defined in the LALRP. Inputs are the services, resources or goods that contribute to achieving outputs and, ultimately, desired outcomes. Input monitoring is done internally on an on-going basis, often as part of the project general management system or quality assurance system.
188. Output (or performance) Monitoring: Measures the direct measurable results of the inputs, for example the number of people receiving compensation or completing livelihood restoration training course. Input and output monitoring together keep track of project implementation *efficiency*, and indicate whether changes need to be made to make the program operate more efficiently. Output monitoring is done internally.
189. Outcome (or impact) Evaluation: Defines the extent to which the project inputs and outputs are achieving or are likely to achieve the objectives of a program. Examples of outcomes include the effectiveness of livelihood restoration or reinstatement. Outcome evaluation, coupled with output monitoring results, indicate whether the program is genuinely working and should continue to be implemented as is, or whether fundamental changes have to be made. Outcome evaluation is usually carried out by an external independent group. Outcome evaluation can be integrated with the process of compliance and completion monitoring and auditing, which is mandated by the requirements of PS5 and PR5.

9.2 INPUT AND OUTPUT MONITORING

190. Geoteam will use indicators and KPIs shown in the table below to carry out input and output monitoring of its land access, compensation and livelihood restoration activities.
191. Input and output monitoring will, for the most part, be carried out internally under the supervision of the Lydian Executive Vice-President, with monthly audits of progress and compliance.

⁸ These definitions are those used by the US Environmental Protection Agency (US EPA): www.epa.gov

Table 8. Input and Output Indicators

Indicator	Source of Information	Frequency	KPI ⁹
Input indicators			
Overall spending	Financial records	Quarterly	KPI
Distribution of spending by: <ul style="list-style-type: none"> • Cash compensation • Rehabilitation - livelihood restoration • Consultation and engagement • Vulnerable people • General implementation services & overhead 	Financial records	Quarterly	
Number of full time staff dedicated to land access, compensation, and livelihood restoration with distribution in-house / outsourced if applicable, and distribution by skill type	HR Department	Quarterly	KPI
Number of PAPs by categories	Census and grievance management	Quarterly	KPI ¹⁰
Output indicators			
Number of people having received cash compensation in the period with distribution by compensation type and by classes of amounts	Data management system	Monthly	KPI
Number of individual compensation agreements signed in the period	Data management system	Monthly	

9.3 OUTCOME MONITORING & EVALUATION

192. Geoteam will use indicators and KPIs shown in the table below to carry out outcome monitoring of its land acquisition and compensation activities.

⁹ Key Performance Indicator

¹⁰ Although this is not per se a performance indicator, it is a key element of the monitoring and as such should be measured as a KPI.

Table 9. Outcome Indicators

Indicator / Issue	Measured how	Frequency	KPI
GRIEVANCES			
Average time for grievance processing	Measure time interval between grievance registration and closure and time between grievance registration and first acknowledgement of receipt	Quarterly	
Number of open grievances and trend in time	Data Management System	Quarterly	KPI
Number of grievances opened in the period and trend in time	Data Management System	Quarterly	
Number of grievances closed in the period and trend in time	Data Management System	Quarterly	
COMPENSATION			
Average time for payment of compensation	Measure time between compensation agreement and payment	Quarterly	KPI
Has compensation been paid at full replacement cost? Is compensation updated to take account of increases in real estate value?	Compare results of real estate market survey for similar properties with compensation paid. Investigate whether recipients of cash compensation were able to purchase a similar property	Yearly	KPI
Use of compensation	What has compensation been used for? Survey of compensated households	Yearly	KPI
LIVELIHOOD RESTORATION			
Business re-establishment	Have affected businesses been successfully re-established (if applicable)? Survey of activities and sales over a sample of businesses and comparison with baseline	Yearly	
Employment of business employees in the relocated businesses	Are employees still employed in the relocated business (if applicable)? If no why? Survey of employees over a sample of businesses and comparison with baseline	Yearly	
Jobs and employability	Are affected wage earners still employed in their former jobs? Survey of employment over a sample of wage earners and comparison with the baseline	Yearly	
Income	Are incomes restored? Survey of occupations and income over a stratified sample of PAPs and comparison with baseline	Yearly and at Completion Audit	KPI

9.4 COMPLIANCE MONITORING AND COMPLETION AUDIT

9.4.1 Compliance Monitoring

193. Geoteam will procure the services of an external compliance auditor to check whether the implementation of the programme complies with this LALRP and international requirements (PS 5).

194. The scope of work of the compliance auditor will include the following tasks:

- General:
 - Assess overall compliance with LALRP commitments and PS5;
 - Interview a representative cross-section of affected households and enterprises to measure the extent to which project affected people's standards of living and livelihood are being restored or enhanced; and to gather their opinions on compensation delivery, resettlement housing and grievance management;
- Compensation process:
 - Review if entitlements are delivered in time (as set out in the LALRP) and, if not, whether delays are justifiable;

- Check that compensation is at replacement value;
- Livelihood restoration:
 - Assess the extent to which the quality of life and livelihoods of affected communities are restored, verify that measures to restore or enhance project affected peoples' quality of life and livelihoods are being implemented and assess their effectiveness;
 - Review any livelihood restoration / rehabilitation programmes and the extent to which they are assisting in providing alternative livelihoods for affected households to help offset the impacts of displacement;
- Monitoring & Evaluation:
 - Review internal monitoring and reporting procedures to ascertain whether these are being undertaken in conformance with the LALRP;
 - Review internal monitoring records as a basis for identifying any potential areas of non-compliance, any recurrent problems, or potentially disadvantaged groups or households;
- Grievances:
 - Review grievance records for evidence of significant non-compliance or recurrent poor performance in resettlement implementation or grievance management;
- Vulnerable people:
 - Assess the vulnerable people screening, tracking and assistance systems, related records, and performance to determine compliance with LALRP;
- Implementation:
 - Assess whether resources are adequate for implementing the LALRP and any training or capacity building requirements;
 - Assess the data management system and its outcomes;
 - Compare actual progress with initial schedule.

195. Compliance monitoring will take place during implementation of the land access programme and upon completion of the active phase (twice in total). The external auditor will dedicate approximately 10 days to each of these missions, with most of this time dedicated to field visits, including interviews with key informants and affected people. Each of the auditor's missions will be sanctioned by a report prepared independently for Geoteam and the lenders. The auditor will be selected amongst reputable individuals with significant international experience in resettlement.

9.4.2 Completion Audit

196. Geoteam will organise that a completion audit be carried out by an external auditor. The goal of the completion audit is to verify that the LALRP as implemented has been effective in restoring project affected peoples' standards of living and livelihoods, and if not, to recommend any necessary corrective actions. Accordingly, the completion audit has the following objectives:
- Assess the effectiveness of measures to avoid and minimize displacement impacts by comparing project actual impacts on land and people versus those documented in the LALRP;
 - Verify that all entitlements and commitments described in the LALRP have been delivered;
 - Determine whether LALRP measures have been effective in restoring or enhancing affected peoples' living standards and livelihood;
 - Check on any systemic grievances that may have been left outstanding;
 - Identify any corrective actions necessary to achieve completion of LALRP commitments.
197. The Completion Audit will focus on livelihood restoration. The livelihood restoration assessment will mainly involve a replication of the quantitative household livelihood survey carried out prior to the programme (see section 4.2). Macro-economic factors will be taken into consideration as warranted when interpreting the results of the comparison (for example inflation, real estate cost, general growth of the economy or recession).

198. As a preliminary attempt at defining livelihood restoration success, it is tentatively assumed that livelihoods will be deemed restored if 90% or more of affected households (landowners, land users, herders) have improved or at least restored their livelihoods against the 2014 baseline. This criterion will be appraised and refined if needed in the course of the monitoring exercise and at the time of the Completion Audit itself. Whether this objective is reached or not, and subject to a detailed review of the economic, social and personal circumstances¹¹ of those households who would not have restored their livelihoods, corrective actions will be identified to address further assistance to any households (in particular vulnerable households) who have not managed to restore their livelihoods.
199. In addition, the Completion Audit will utilize qualitative approaches to gather data and assess household standards of living. Particular attention will be paid to assessing the impact of land acquisition on the circumstances of vulnerable households.
200. The Completion Audit report will present conclusions on the effectiveness of livelihood restoration and identify any corrective measures that would be necessary to complete rehabilitation of PAPs.
201. The Completion Audit could be undertaken by the same consultant also in charge of Compliance Monitoring (see above section 9.4.1). The Completion Audit will be carried out two to three years after the active phase of land acquisition and compensation is complete or when the Compliance Auditor deems appropriate.

¹¹ As many non Project related factors could play a role in the inability of some households to restore their livelihoods.

10. EXECUTION PLAN

10.1 STAFF AND RESPONSIBILITIES

10.1.1 Land Access Lead

202. Land access is placed under the direct responsibility of the Geoteam Managing Director (Land Access Lead). The Lydian Executive Vice President carries out regular internal audits focussing on compliance with IFIs requirements.

203. The Land Access Lead's tasks include the following:

- Coordinates and allocates all activities, and ensure that they are delivered on time, particularly with regards to external contractors (valuer, notary, and potentially others);
- Liaises with mayors and other external parties;
- Coordinates grievance management (allocation of tasks with regards to grievance review and resolution) and overall accountability for grievance management;
- Participates personally in difficult negotiations (with the other staff identified below);
- Ensures quality control, particularly where tasks are outsourced, and ensure that all documentation is consistently gathered, stored, and processed;
- Checks, validates and signs all legal agreements pertaining to the land access process;
- Reports to Lydian General Management on a regular basis.

10.1.2 Other Staff

204. In addition, the following staff/tasks has/have been allocated to the land access exercise:

- Social, livelihood restoration and gender manager:
 - Coordinates activities pertaining to vulnerable peoples' identification and assistance;
 - Coordinates social surveys and monitoring;
 - Participates in difficult negotiations and general engagement;
 - Coordinates livelihood restoration initiatives (and other Geoteam social programmes);
 - Coordinates activities pertaining to herders;
 - Supervises and audits information management;
- Land access manager:
 - Coordinates negotiation activities (including signature with notaries), establishment of schedules, verification of agreements, coordination of registration at cadastral offices, coordination of identification of absentee co-owners, perform regular documentary audits;
 - Coordinates the development of replacement land (irrigation works) and its further allocation to affected households;
 - Triggers compensation payments with sign-off from the Land Access Lead;
 - Liaise with absentee co-owners;
 - Triggers the involvement of the Legal Services Provider where warranted;
- Negotiation coordinator: based in the field for the duration of the exercise, this individual is responsible for coordinating all survey activities and organises further negotiations and agreements;
- Survey and negotiation agents (two): based in the field for the duration of the exercise, these persons conduct negotiations and surveys and input data into the information management system; these persons were recruited in the community and are allocated full time to the land acquisition activity for the duration of the exercise.
- GIS/database specialist: coordination of data entry, quality insurance and verification (part time), generation of quantitative reports;

- Land acquisition lawyer: liaise with the Cadastre and notaries, help with legal matters, prepare and keep records of negotiation visits and meetings;
- Finance: coordination of payments (by financial director and existing collaborators within his department, part-time);
- Liaison with lenders (Lydian Executive VP);

10.1.3 Legal Services Provider

205. Geoteam hired a reputable Armenian legal services firm (Ameria Legal Services, a subsidiary of Ameria Group, which amongst others owns the largest Armenian bank) to help in handling specifically difficult situations, particularly the following:

- Absentee land owners (including, but not limited to the process of establishing Powers of Attorney, with required notarisation – and apostils when these PoAs need to be apostiled for people residing outside of the Community of Independent States), with all follow-up activities required in Armenian towns and villages outside of the Project area (i.e. mainly but not only in Yerevan), and outside of the country (i.e. mainly but not only in the Russian Federation);
- Expropriation process (i.e. triggering the process with relevant Government agencies¹², serving the required notifications to interested landowners, coordinating and facilitating the different steps and legal acts required by the process, particularly in its amicable first stage, representing the Company in Court hearings about the expropriation cases, etc...);
- Court cases, would any arise.

10.1.4 Other Outsourced Tasks

206. In addition to the legal services described above, the following other tasks are outsourced:

- Valuation (one real estate valuer and one crop valuer): valuation of affected plots, including both land (real estate valuer) and crops (crop valuer), preparation of inventory and count sheets, preparation of valuation reports able to withstand scrutiny from the point of view of Armenian law, participation of the review of claims by affected parties, participation in public events to provide explanations on the valuation of assets;
- Notarial services (one notary, or possibly two to have an alternate), to be identified from existing local notaries, who should accompany the exercise in the field during the whole duration of the second round of negotiations, such that agreements can be notarised immediately without affected people having to wait or go to the next town;
- General guidance (Mr Giovannetti): review and advice as required by Lydian/Geoteam top management and Land Access Lead.

10.2 BUDGET

207. The total budget of the land acquisition, including the compensation for land, crops and structures, development of replacement land, vulnerable people and livelihood restoration, and project implementation, is estimated to be approximately USD 13 mln.

10.3 IMPLEMENTATION SCHEDULE

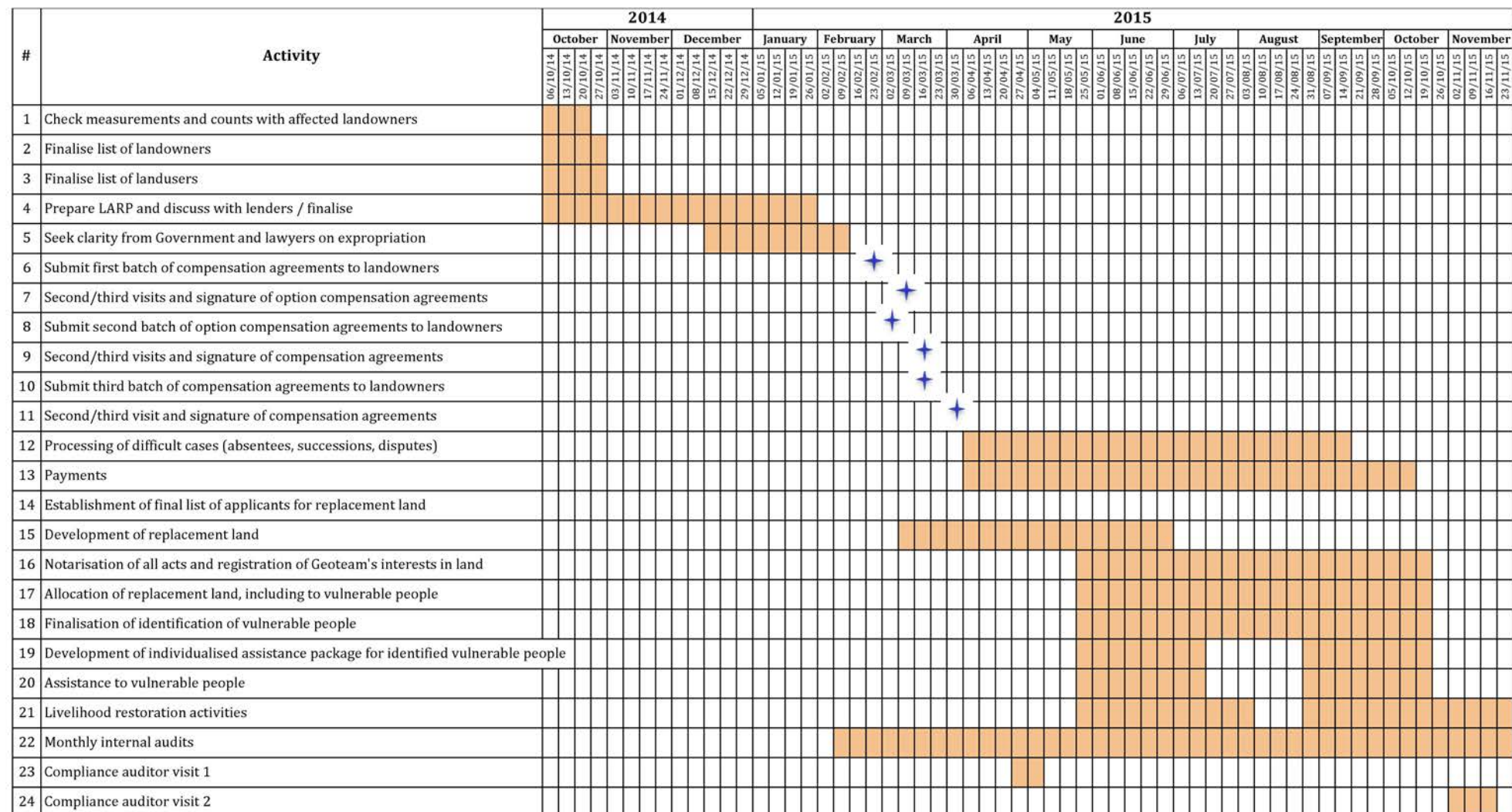
208. The figures below show, respectively:

- The overall implementation schedule of the Project as a whole;
- The land access implementation schedule.

¹² Based on currently available information, this will be the Governorate of the Yeghegnadzor marz.

Figure 16 – General Project Implementation Schedule

Figure 17 – Land Access Implementation Schedule



Appendix 1 – List of Relevant Land Access Related Laws and Decrees

Note: this list of implementation-related pieces of RA legislation is provided in addition to the list of key texts provided in section 14 and reviewed in further sections of Chapter 2.

- Surveys and valuation:
 - Resolution on approving cadastre valuation procedure, and the coefficients and the borders of location zoning of the lands of RA settlements (RA Government decree N 1746-N of December 24, 2003)
 - Procedure of formation of description protocols on private properties in recognized areas (Annex 2, Government decision N 108, January 25, 2007)
 - Government decree on approving of measurement description protocol paper forms (State Revenue Committee of RA, Order N 423 –N, 9/03/2010)
 - Decree on licensing of implemented activities in the sphere of location mapping in RA and implementation of land works, real estate assessment and realtor activity, and ratification of the forms of license of the implementation of mentioned activity (RA Government decree N 1409-N, 08/11/2007)
 - Decree on defining the exemplary form of the scheme of the land as an Annex of the Contract of provision of acquisition, usage and construction of state and community lands (State Revenue Committee of RA, Decree N 06-339 –N, 21/08/2006)
 - Decree on approving the order of application of payments for provision of information on State registration of real estate rights and registered rights and limitations (State Revenue Committee of RA , Order N 154 –N, 29/06/2009)
 - Decree on approving “Real Estate (lands, buildings, structures) registration” order, “Residential isolated public , industrial buildings, structures, description of the lands occupied thereof”, “the description of the apartment in residential multi-apartment building, non residential area in multi-apartment building, public and industrial Structure”, “Calculation of the surfaces of land and the floors of the buildings and structures” paper forms, “Fill-in methodical instructions of paper forms on the calculation of surfaces of alignment and land, and floors of buildings and structures ” (State Revenue Committee of RA , Order N 307 –N, 30/09/2008)
 - The Decree on approving the procedure of implementation of actions on verification of professional qualification of physical applicant entities of types of activities subject to license of “Real estate assessment” and “Realtor operations” in RA, and “Real estate assessment” and “Realtor activity” in RA (RA Government decree N 1409-N, 08/11/2007)
 - The Order on application of payments for provision of information on State registration of real estate rights and registered rights and limitations (State Revenue Committee of RA , Order N 154 –N, 29/06/2009)
- Legalisation of illegal properties:
 - Decree On Illegal Constructions Legalization and Disposal Procedure Approval (18 May 2006, N 912-N)
 - The Law on the status of private residential houses in Yerevan which have not preserved their proof of title (Adopted on June 10, 2008)

Appendix 2 – Livelihood Survey Form

Livelihood Questionnaire – Affected Household

1. Cadastral number of affected land plot(s): _____ 2. Village: _____
3. Total surface of affected plot: _____ ha
5. Full name of household head: _____
6. Permanent address: _____
7. Telephone number: _____ 8. Mobile: _____

Composition of household

Member	1 (Head)	2	3	4	5	6	7	8
Relationship to HH	N/A	9.	10.	11.	12.	13.	14.	15.
Head - See codes below								
Age	16.	17.	18.	19.	20.	21.	22.	23.
Gender (M/F)	24.	25.	26.	27.	28.	29.	30.	31.
Primary occupation	32.	33.	34.	35.	36.	37.	38.	39.
See codes below								
Educational level	40.	41.	42.	43.	44.	45.	46.	47.
See codes below								
Handicap or chronic illness	48.	49.	50.	51.	52.	53.	54.	55.
Relationship to Household Head:		1: Spouse	2: Son or Daughter	3: Father or Mother	4: Brother or Sister	5: Other		
Primary Occupation:	1. Farmer	2. Pensioner	3. Unemployed	4. Civil Servant	5. Business (non farming)	6. Other		
Educational Level:	1. Primary	2. Secondary	3. Technical	4. Higher (univ/institute)	5. None (primary not completed)			
Handicap:	1. Invalid 1 st Category	2. Invalid 2 nd Category	3. Invalid 3 rd Category	4. Other invalidity or chronic illness				

- Does your household own one or several of the following items:
- | | | | | |
|-------------------|-----------------|--------------|--------------|----------|
| Colour TV | Satellite Dish | Telephone | Mobile phone | Internet |
| 56. | 57. | 58. | 59. | 60. |
| Personal computer | Washing machine | Refrigerator | Motorcycle | Car |
| 62. | 63. | 64. | 65. | 66. |

68. What is the first source of expenditures of your household? _____
1. Food 2. Housing 3. Schooling or university expenses 4. Utilities 5. Health 6. Farming expenditures (including livestock) 7. Business Expenditures
8. Transport 9. Other

69. How much in average do you spend monthly? AMD _____
- To find the number, break it down (Food, Housing, Schooling or university expenses, Utilities, Health, Farming expenditures or related to livestock, Business, Transport, Other)

70. Tenure of the affected plot: You own it and you use it yourself You own it and you rent it out to somebody else You rent it from the State or Municipality You rent it from a private owner

71. Do you use the affected plot for agriculture? Yes / No

"Agriculture" includes pasture with animals grazing, hay, gardening, orchards, and usual annual crops

72. If you answered No to question 71, what do you use the affected plot for? _____
- 0: Not used 1: Residence 2: Agricultural building 3: Industrial or commercial building 4: Other

- If you answered Yes to question 71: 73. Do you irrigate this land Yes / No

74. Typical crop on this plot: (coded answer): _____
- 1: Wheat 2: Maize 3: Other grain crop 4: Beet 5: Potato 6: Garden crop 7: Luzern 8: Other fodder crop
9: Grass for hay production 10: Grass for pasture 11: Apricot trees 12: Other fruit trees 12: Other

75. Is the affected plot mainly used for your own food needs? Yes / No

76. What is the total surface of your agricultural land (including this affected plot and all others): _____ ha

77. What is the average yearly income of your household from agriculture: _____ AMD

Attach the breakdown calculation in the paper

78. What is your average total income: _____ AMD

79. In enumerator's assessment (not a question), is there potential for vulnerability in this household: Yes / No

80. If yes to 79, why: _____

1: Elderly 2: Invalid 3: Very poor, cannot cope with their basic needs 4: Female-Headed Household 5: Flagged by local authorities Other

Appendix 3 – Plot Survey and Asset Inventory Forms

LAND PLOT SURVEY FORM (Fill out a separate sheet for each affected land plot)

Sketch of the affected plot. Copy cadastral sketch, and identify structures if any, annual and perennial crops

Date: ____/____/____	Cadastral Number: _____	Household Number: _____	Surface area: _____ m ²

ASSET INVENTORY FORM (Fill out a separate sheet for each affected land plot)**Structures** (such as sheds, caravans, wells, workshops, stables, pigsties, etc...)

No. Struc.	Photo number	Type of structure	Surface m2	Materials	Registered	Owner of the Structure Name (contact information if not member of the household)
					Yes / No	

Type of structure: 1- Latrine 2- Well 3- Shower 4- Fence 5- Animal shed 6- Water tank
7- Spring catchment 8- Bus 9- Caravan or wagon 10- Other (please specify in the table)

Construction materials: 1- Mud 2- Cement/concrete blocks 3- Stones 4- Wood planks 5- Other (please specify in the table)

Annual Crops

Crop (specify name)	Surface area (m ²)	Crop Owner [Name (ID number and address if not member of the household)]

Perennial crops (trees)

Tree (species)	Age	Number		Crops Owner Name (ID number and address if not member of the household)
		Total	Affected	

Age:

1- Seedling - non-productive 2- Young - non-productive 3- Young - productive 4- Mature – fully productive

Any comments or additional observations:



LYDIAN
INTERNATIONAL



GEOTEAM



AMULSAR PROJECT



GUIDE FOR LANDOWNERS AND LAND USERS



LAND ACQUISITION AND COMPENSATION

2015 February

1. THIS GUIDE

This Guide has been prepared by Geoteam to inform landowners and land users that are potentially affected by land take necessary to build and operate the Amulsar Mining Project. The Guide is intended for information purposes only.

2. THE AMULSAR PROJECT

The Amulsar Project is a new gold and silver discovery made by Lydian in 2006. It is located in two separate provinces, or 'Marzer', in South East Armenia, namely Vayots Dzor Marz and Syunik Marz. The Amulsar deposits are located on the top of Mount Amulsar. The mining process will be open pit and the extraction of the gold and silver will be carried out using heap leaching technology.

Three main village communities are present in the immediate project area. These are Saravan and Gndevaz, situated in Vayots Dzor Marz, respectively approximately 5 km southwest and 7 km west of the deposit, and Gorayk located in Syunik Marz, approximately 5 km southeast of the deposit. Jermuk, a resort and spa, is located about 8 km to the north of the Project.

Open pit mining of the Amulsar deposit is planned over a period of about 11 years and will cover the Artavasdes, Tigranes and Erato ore bodies.

The proposed Heap Leach Facility is located on the western side of Amulsar Mountain, approximately 1.2 km south of Gndevaz at its closest point, and approximately 6km in a direct line from the open pits. This site will also include collection ponds and the gold recovery plant.

Access to the site will be via a partially existing road which links to the main road linking Gndevaz and Jermuk. The road will continue east up the valley and will become the main access for construction, operation and maintenance of the heap leach facility. The existing power lines, which run down the western edge of the site, will be used to provide site power and a new electrical substation will be built.

The crusher will be located 1km to the north of the Erato pit, as well as maintenance workshops and offices, all adjacent to the current exploration camp. An overland conveyor will take the crushed ore to the heap leach facility. A

suitable route has been identified over approximately 8 km between the crusher and the heap leach facility. The conveyor will be covered to avoid dust. A road will be constructed near the proposed conveyor route to provide vehicular access for maintenance of the conveyor as well as access to the crusher and production infrastructure at the top of the mountain. Fibre optic lines, water and power lines will also be located in this corridor to minimise land disturbance.

The Amulsar Project is developed by Lydian International (Lydian), a British company specialising in exploration and mine development, and Geoteam CJSC, an Armenian company fully owned by Lydian international. The International Finance Corporation (IFC), the private sector arm of the World Bank Group, and the European Bank for Reconstruction and Development (EBRD) each own about 7% of Lydian International.

Geoteam applied for mining permit on 29 July and received the mining right from the RA Ministry of Energy and Natural Resources on 26 November 2014.

More information on Lydian International, Geoteam CJSC and the Amulsar Project is available at: www.lydianinternational.co.uk (in English) www.geoteam.am (in Armenian).

More information is also available at the Amulsar Information Centre (AIC) in Gndevaz.

3. PROJECT LAND IMPACTS

Land that will be required for construction and operation of the Amulsar Mining Project is located in the communities of Gndevaz and Saravan. There is some land affected in the community of Gorayk but it is all State land and no private landowners or land users will be affected.

A portion of the land that will be required for the Project will be needed for the period of mining only (approximately 13 years). This is particularly the case for the mining pits, the conveyor between the crusher and the heap leach facility, and some of the waste rock storage areas, in the communities of Gndevaz and Saravan. Upon mine closure, such land will then be re-contoured, restored and transferred to community ownership for communal use as pasture or forest land, with some safety restrictions that will be defined at the time of the land hand-back.

The heap leach facility (located in the territory of Gndevaz) will be restored but will not be usable because of slope and other safety restrictions. This land needs to be acquired permanently.

While the mining pits are located high on the Amulsar mountain on State- or Municipality-owned land, the conveyor, the access roads, and the heap leach facility will all affect private land plots. Most of these land plots are located in the territory of Gndevaz, with a few located in the territory of Saravan.

The following number of private land plots and the surface area that will be affected by the Project:

- Heap leach facility: about 280 private land plots
- Conveyor from the crusher to the heap leach facility: about 30 private land plots;
- Access road: about 20 private land plots.

4. LAND ACQUISITION PRINCIPLES FOR THE AMULSAR PROJECT

The Project's two shareholders IFC and EBRD both apply stringent land acquisition and compensation standards, known respectively as Performance Standard 5 (IFC) and Performance Requirement 5 (EBRD). Geoteam is committed to implement all land acquisition activities in conformance with these standards, in addition to Armenian law.

Geoteam's strategy for land acquisition and access is based on the following principles:

- The Project will comply with Armenian law and international standards (IFC PS5 and EBRD PR 5).
- Physical displacement is avoided (Project facilities avoid all residential areas, and nobody will have to move as a result of the Project).
- Compensation for private land and crops is paid before land is taken and is calculated at replacement value.
- Land is purchased from private owners in normal sale-purchase transactions.
- Affected standing crops (both trees and annual crops) are compensated at replacement value.
- Orphan land, i.e. land that is severed or bisected so that the remaining portion of the parcel becomes uneconomic and/or unviable, is compensated.
- The land acquisition process (identification of affected plots and owners/users, sale-purchase agreements) is managed by Geoteam CJSC.
- All sale-purchase agreements are registered.
- A land-for-land option is available to those willing to choose replacement land rather than monetary compensation.
- Affected people have access to a grievance mechanism (see details at the end of this Guide).
- Vulnerable people are identified and if required are provided with additional assistance during and after the land acquisition process.
- Impacts to livelihoods that might arise as a result of the land acquisition process are monitored and mitigated if needed.

5. LAND ACQUISITION PROCESS FOR THE AMULSAR PROJECT

The process of land acquisition includes the following six main steps:

1. Identification of affected land plots, landowners and land users, including informal land users, based on cadastral information, and title search and gathering of all legal documentation (land titles, leases, mortgages, liens, certificates of death and wills to determine inheritance, powers of attorney);
2. Socio-economic survey of affected landowners and land users;
3. Inventory of assets on the affected plots, including structures, trees, and crops;
4. Compensation offer to the affected landowner, and land user if applicable;
5. Signature of the land Sale-Purchase Agreement, 10% of the land value and crop compensation (the “First Payment”) received by the landowner, transfer of the land title to Geoteam's property, and the remaining 90% of the land value, crop compensation and structure value (if applicable) (the “Final Payment”) received by the landowner.

5.1 Identification and Title Search

The identification of affected land owners is based on official data provided by the State Cadastre of the Republic of Armenia. These data include:

- The cadastral number (unique cadastral code) of the land plot.
- Its surface area.
- The names of the owner (or co-owners if the property is held under joint co-ownership).
- Liens, mortgages, and other legal specificities, if applicable.
- The land category (arable, non arable) and other information pertaining to the calculation of the cadastral value.

Based on this information, Geoteam has established a list of all affected plots. Geoteam's project footprint is superimposed on the cadastral map to establish exactly what plots are affected.

5.2 Socio-Economic Survey

All owners, co-owners, and land users that reside in the nearby communities are submitted to a socio-economic survey. Its purpose is to establish the current socio-economic circumstances of every affected household, in line with international requirements. It addresses the following topics:

- Census of people residing in the affected household
- Social and economic information.

This survey has started in June 2014 and is implemented by a team of local enumerators. While the affected family is visited by the team for socio-economic survey, they are also

invited to present the land title of the affected plot as well as their passports and marriage certificate. Where one of the registered co-owners is deceased, an inheritance certificate, or at least death certificate, will also have to be presented to the team, such that further steps to register the interests in the property can be defined.

5.3 Inventory

At the same time (June and July 2014) an inventory of affected plots is conducted by an independent valuer and an independent agronomist, both experts in their respective areas. This is meant to describe the plots as well as any structures, trees and crops thereupon.

5.4 Compensation Offer and Land Sale-Purchase Agreement

Based on the inventory and in conformance with valuation methodologies prescribed in Armenian law and international standards, a valuation of the plot is prepared. This is done at “replacement value”, meaning that the compensation must be sufficient to allow the affected landowner to replace the lost land plot with a similar one in the same area. Trees are also valued such that the loss of income resulting from the loss of the tree is compensated.

In cases where the landowner does not use the land and there is a different land user, land compensation will be offered to the landowner, while crop and tree compensation will be offered to the land user. This also applies to land users farming on municipal land.

- Geoteam will propose to affected landowners to enter into a Land Sale-Purchase Agreement. As per the agreement, Geoteam shall pay the landowners 10% of the land value, crop compensation and structure value (if applicable) (the First Payment), which will be paid after the agreement is signed and notarised (as provided in the Agreement) [X] days. The land will then be transferred in Geoteam's ownership. The remaining 90% of the land value and crop compensation (the Final Payment) shall be paid to the landowners by a date stated in the Agreement.
- The Company plans to make full payments for land plots (land, crops, and structures) that are valued at less than or around AMD 500,000. This approach is based on relatively small amount of compensation.
- If the transaction does not proceed due to Geoteam's decision or if the landowner does not receive the Final payment by the above mentioned date, the land plot will be returned to the landowner; he/she will keep the First payment.

5.5 Finalisation of the Transaction

In conformance with regulations, all payments will have to be made by bank transfer into the accounts of the respective beneficiaries (owner, co-owners, land user, as applicable) in the name of the beneficiary. You will be requested to present bank information at the time that the Agreement is signed. If you do not have a bank account you will be assisted to establish one. In case spouses are co-owners and only one of the spouses has a bank

account, the other spouse will have to open an account as compensation for one of the spouses cannot be paid to the other spouse (unless they have a joint account certified as such by the bank). No compensation will be paid in cash.

If the recipient is a physical person, Geoteam will withhold and pay applicable taxes.

6. CALCULATION OF COMPENSATION

Compensation rates are calculated by an Armenian professional valuer in compliance with Armenian law and international requirements.

The details of the calculation (land, crops and trees, buildings) will be included in the Agreement mentioned above. In case you need detailed explanations, please do not hesitate to lodge a question through the Amulsar Information Office in Gndevaz, or using the call numbers mentioned at the end of this Guide.

6.1 Land

Land is valued separately from crops, trees and buildings or structures that may exist on the land plot. For valuation of crops, trees and buildings see below paragraphs 5.2 and 5.3.

All land to be acquired by Geoteam is agricultural. There is no industrial or residential land.

Valuation of each land plot is done by the “comparative method”, whereby relevant real transactions are identified in the area based on official information. These real transactions are analysed (type of plot, category of land, location). Then each affected plot is inspected and compared to the characteristics of the real transactions. For example, access, slope, presence of irrigation, presence of stones, are taken into consideration. A calculation is then made to arrive at a value per m² for the land plot, which is multiplied by the surface area. Details of the land valuation will be included in writing in the Compensation Offer.

6.2 Crops and Trees

In the area to be acquired by Geoteam, there are annual crops (wheat, barley, potato, maize, etc.), garden crops, and apricot and other fruit trees,

Annual and garden crops are valued at market value. Compensation for annual crops is calculated based on counts made in each plot in summer 2014.

Apricot and other fruit trees will be valued to compensate for the loss of income incurred by the land owner or land user. Trees will be categorised by variety and age and there will be a value for each category of age, which is based on the average productivity of the tree and the average wholesale market price of the produce.

Compensation for annual crops and trees will be paid to the actual land user. In some cases the land user is different from the landowner. Where this is the case, the land owner will receive the compensation for the land, and the land user will receive the compensation for the crops.

6.3 Buildings

Compensation for any structures and developments on land (irrigation, drainage) is valued on a case-by-case basis and will be paid to the proven owner of such structures and developments, who could be either the landowner or land user depending on the situation. Ownership will be based on statements by the landowner and land user and may be ascertained with local authorities and neighbours in case of disputes.

6.4 Land-for-land option

For those landowners, who will prefer replacement land instead of monetary compensation, Geoteam will offer land plots in an area located in North Gndevaz. The landowners will get cash compensation for the crops and trees, and a replacement land against the compensation for their land. They will be able to use the suggested land plots for various agricultural purposes, including planting trees.

The suggested land plots for land for land option have been identified in Northern Gndevaz. The Company will provide support to develop an irrigation system in that area.

6.5 Transaction Cost

All transaction cost (notaries, registration, taxes) will be paid for by Geoteam.

In cases where some landowners or co-owners are absent from the site, Geoteam will be happy to support the cost of establishing and notarising Powers of Attorney, including apostills for people residing outside of the CIS, based on reasonable proof of cost incurred.

Any photocopies can be done free-of-charge at the Amulsar Information Office in Gndevaz.

7. COMPENSATION RATES

Compensation rates have been communicated during the consultation meetings with the landowners since August 2014. The compensation rates were revised based on feedback from landowners,

All information on the land acquisition is provided in the Land Acquisition and Livelihood Restoration Plan (LALRP) prepared in January 2015. It is a comprehensive document that provides details on land acquisition process, describes the compensation calculation method and includes tables with compensation rates for land and crops.

8. DISTRIBUTION OF COMPENSATION BETWEEN OWNERS, CO-OWNERS, AND LAND USERS

8.1 Compensation for Land

Compensation for land is always paid to the registered owner (or registered co-owners). Where there are several registered co-owners, compensation for land is shared amongst these co-owners. Compensation for land is shared equally if there is no mention of a specific share distribution in the land title, or according to the share mentioned in the land title if applicable.

Note that in cases where there has been a sale of the land that was not registered, it will be your responsibility to register this sale. Otherwise we will not be able to pay the compensation.

8.2 Compensation for Crops and Trees.

Compensation for crops and trees is paid to the individual actually farming the land, who may be the same from the landowner or not depending on the situation.

Where the owner and the actual user of the affected land plot is the same individual, this person receives compensation for both land and crops.

Where land is farmed by a land user different from the landowner, the landowner receives the compensation for land, and the land user receives the compensation for crops and trees. If there is a specific written or verbal arrangement between the landowner and land user on share of land income, we'll need to know about such agreements such that we can take account of them in the compensation share.

Where municipal or other publicly owned land is privately used by a farmer, the land user receives compensation for crops, subject to presenting a lease or similar land use agreement. This information is checked with the relevant authorities.

8.3 Compensation for Buildings and Other Structures

Similarly to crops and trees, compensation for buildings and other structures on land is paid to the person who actually erected these structures. Depending on cases, this can be either the landowner (or one of the co-owners), or the land user.

8.4 Land for Land Compensation

Upon request to our teams, you can receive compensation in the form of a replacement land plot rather than money. Municipal land has been identified in Northern Gndevaz for this purpose. An irrigation system will be put in place. Please seek details from our teams if you are interested.

9. DECEASED OWNERS

In some cases, the registered owner may have passed away, and the new owner or co-owners have not been registered yet. In such cases, Geoteam will ask you to present the certificate of death of the deceased owner (or co-owner), and assist you to register the new owner or co-owners. Compensation for land will be paid to the newly registered owner (or co-owners).

10. VULNERABLE PEOPLE

Some people may be less able to participate in consultation and negotiations or to benefit from compensation, because, for example, of old age handicap, or special needs. Geoteam recognises that: these people are specifically identified and will be assisted as needed, in cooperation with local authorities.

11. DOCUMENTS THAT YOU NEED TO PRESENT TO OUR TEAMS

Please present the following documents (we'll take care of the photocopies at the Amulsar Information Office in Gndevaz):

Landowners (for all co-owners identified in the cadastral register):

- Passport.
- Marriage certificate.
- Land title certificate.
- Certificate of death.
- Certificate of inheritance.
- Power of attorney for people who are not present and cannot sign the agreement (see model of Power of Attorney in Appendix 4 to this Guide).

Land users:

- Passport.
- Proof of the fact that you are a land user on a given plot, such as, for example, lease agreement with landowner (these documents will be verified with the landowner).

In specific cases where the landowner or land user is a corporate entity, incorporation documents will have to be submitted to allow Geoteam to enter into agreements with the individuals duly authorised to represent the corporation.

12. FURTHER INFORMATION

The Amulsar Information Centre in Gndevaz is available for you to seek additional information on the Project in general, and the land acquisition process. In the Centre, you will find staff that is available to respond to your queries, you can lodge a formal grievance, provide additional information or documents needed for the land acquisition process. You can also obtain documents, like this Guide and other documents about the Project.

13. GRIEVANCES

If you have a grievance, query, or concern, please inform us so that we can respond and solve the issue! Do not rely on hearsay and rumours, which may not always be correct. Seek the right information directly from Geoteam.

Geoteam has put in place an amicable grievance mechanism to manage and redress grievances:

- All grievances are registered, reviewed and responded to: our grievance coordinators follow up and receipt is acknowledged within 7 calendar days, and responded to within 30 calendar days;
- The grievance management mechanism includes amicable grievance review and resolution;
- In cases where the aggrieved individual or group is not satisfied with the outcome proposed by the amicable mechanism, they are able to resort to Justice at any stage in the resolution process.



LYDIAN
INTERNATIONAL



GEOTEAM



If you have a question, query or grievance, please first visit the Amulsar Information Office in Gndevaz. Your question or query may be answered right away. If this cannot be the case, it will be registered and conveyed to the relevant individual in Geoteam's office in Yerevan. You can also call Geoteam's Community Liaison Officer Aram Parunakian at 077 404714 or the Company switchboard in Yerevan at 010 58 60 37, or send an email to: info@geoteam.am.

Lydian International Ltd – Geoteam CJSC

**Amulsar Gold Mining Project
(Armenia)**

Land Access and Livelihood Restoration Plan

Addendum



Prepared by:	Geoteam – Nara Ghazaryan With support from Frederic Giovannetti
Endorsed by:	Geoteam CJSC – Hayk Aloyan, Managing Director Lydian International Ltd – Howard Stevenson, President and Chief Executive Officer
Date:	14 March, 2016
Version:	2

Contents:

1. INTRODUCTION – SCOPE OF THIS DOCUMENT	1
2. ADDITIONAL PROJECT IMPACTS COVERED IN THIS ADDENDUM	4
3. MITIGATIONS AND COMPENSATION.....	5
3.1 AGRICULTURAL LAND	5
3.1.1 Current Status of Land Acquisition	5
3.1.2 Additional Acquisition of Agricultural Land.....	5
3.1.3 Land Access Approach.....	6
3.1.4 Orphan Land	6
3.2 INFORMAL HAY COLLECTION BY LOCAL RESIDENTS IN HIGH ALTITUDE PROJECT-AFFECTED AREA	7
3.2.1 Anticipated Impacts.....	7
3.2.2 Land Access and Impact Mitigation Approach	8
3.3 SEASONAL HERDERS.....	8
3.3.1 Overview	8
3.3.2 Anticipated Impacts.....	9
3.3.3 Consultation with Seasonal Herders	10
3.3.4 Mitigation and Compensation Approach	10
3.4 DAILY HERDERS.....	11
3.5 SUMMARY ENTITLEMENT MATRIX.....	11
4. PROCESSES AND IMPLEMENTATION	13
4.1 NEGOTIATION AND COMPENSATION PROCESS	13
4.1.1 Overview	13
4.1.2 Valuation	13
4.1.3 Compensation Offer and Negotiation Process	13
4.1.4 Payment.....	13
4.1.5 Registration.....	13
4.1.6 Expropriation	13
4.2 EXECUTION PLAN.....	ERROR! BOOKMARK NOT DEFINED.
4.3 IMPLEMENTATION SCHEDULE	14
ANNEX 1 – LIST OF AFFECTED AGRICULTURAL PLOTS IN THE CONVEYOR AREA.....	16
ANNEX 2 – LIST OF INFORMAL HAY USERS IN THE BSRF AREA.....	18
ANNEX 3 – LIST OF SURVEYED HERDERS	19
ANNEX 4 – SOCIO-ECONOMIC SUMMARY ON LANDOWNERS OF AFFECTED AGRICULTURAL PLOTS.....	21

Tables:

TABLE 1. OVERVIEW OF ADDITIONAL LAND NEEDS AND ASSOCIATED IMPACTS COVERED IN THIS ADDENDUM	4
TABLE 2. STATUS OF LAND ACQUISITION AS OF FEBRUARY, 2016	5
TABLE 3. RECENT CONSULTATION WITH SEASONAL HERDERS	10
TABLE 4. SUMMARY ENTITLEMENT MATRIX	11

Figures:

FIGURE 1. REVISED PROJECT DESIGN FURTHER TO THE VE EXERCISE.....	2
FIGURE 2. REVISED PROJECT FOOTPRINT WITH IMPACTS TO AGRICULTURAL LAND, HAY FIELDS, AND HERDERS	3
FIGURE 3. GENERAL ASPECT OF LAND PLOTS AFFECTED BY THE CONVEYOR (“SITE 14”)	6
FIGURE 4. SEASONAL HERDERS IN HIGH ALTITUDE STATE LAND IN THE BRSF AREA.....	9
FIGURE 5. IMPLEMENTATION SCHEDULE.....	15

Acronyms:

BRSF	Barren Rock Storage Facility
EBRD	European Bank for Reconstruction and Development
ESIA	Environmental and Social Impact Assessment
IFC	International Finance Corporation
LALRP	Land Acquisition and Livelihood Restoration Plan
PR	Performance Requirement (EBRD)
PS	Performance Standard (IFC)
VE	Value Engineering

1. INTRODUCTION – SCOPE OF THIS DOCUMENT

1. This document is the Addendum to the Land Access and Livelihood Restoration Plan (“LALRP”) prepared for the Amulsar Gold Mining project in Armenia (the “Project”) for Lydian International (“Lydian”) and its fully owned Armenian subsidiary Geoteam CJSC (“Geoteam”). It was prepared by Geoteam with support from an international land acquisition and resettlement consultant (Frederic Giovannetti) and is fully endorsed by Lydian’s and Geoteam’s management for disclosure and implementation.
2. The LALRP, which was publically disclosed in April 2015, was based on a preliminary design of the Project. In 2015 Lydian, with specialist consultants, undertook a “Value Engineering” (VE) exercise, which aimed at optimising the Project design and reducing its cost. This resulted in some relatively limited changes to the Project layout, thereby requiring an update to the Project Environmental and Social Impact Assessment (ESIA) and to the LALRP that had previously been disclosed to the general public and consulted upon with stakeholders.
3. The scope and purpose of this document are the following:
 - Reflect changes to the Amulsar Project layout that resulted from the VE exercise carried out in 2015;
 - Summarise related impacts to land (including agricultural and grazing) and associated impacts to livelihoods (including farmers and herders);
 - Summarise associated mitigation and compensation measures, based on the principles in the initial LALRP.
4. As denoted by its name (“Addendum”), this document complements the existing LALRP and must be read in conjunction therewith. The LALRP provides all key principles, strategies, and processes pertaining to land acquisition and livelihood restoration for the Amulsar Project, particularly the following, which are not repeated in this Addendum, except where additions are warranted by categories of impacts that were not addressed in the initial LALRP:
 - Legal and institutional background, including the comparison of Armenian legislation with EBRD and IFC requirements;
 - General geographic and socio-economic background;
 - Land acquisition and compensation strategy, process, and procedures, including, but not limited to, general entitlement matrix applicable to the Project in its entirety, valuation methodology, and payment procedures;
 - General approach to livelihood restoration;
 - Monitoring and evaluation consistent with the approaches and indicators reflected in the LALRP;
 - Implementation principles.
5. The following figure shows the final design of the Project based on the Value Engineering exercise. A similar figure showing the design of the Project upon which the initial LALRP was based is presented in the LALRP (Figure 3 of the LALRP). Comparison shows that the changes are relatively minor in scope. The general principles underlying the project layout remain the same, as the location of key infrastructure has been finetuned and optimised rather than changed in any significant manner. As a result, land impacts remain of the same general magnitude, and have even been reduced in some cases against the original plan (herders).
6. The LALRP addressed Phases 1 to 3 of the land acquisition exercise mainly pertaining to the key industrial sites of the Project (including heap leach facilities referred to as “Site 28”). This Addendum mainly addresses “Site 14” (the 5.3 km long conveyor from the mine to Site 28) as well as some limited supplemental impacts generated by the VE exercise, which mainly interest high altitude land located close to the mine itself on the Amulsar mountain. These will together form “Phase 4” of the land acquisition exercise.

Figure 1. Revised Project Design Further to the VE Exercise

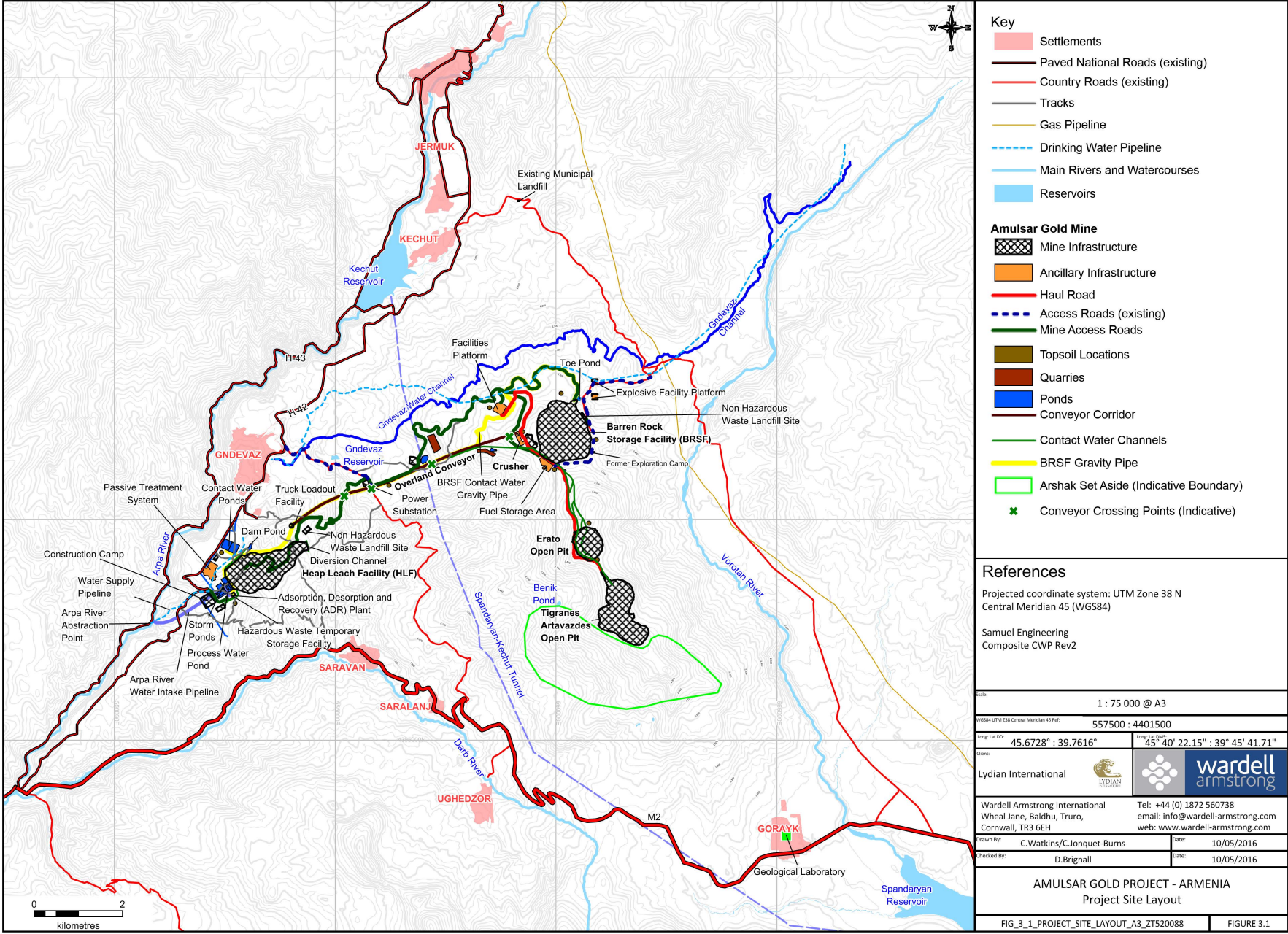
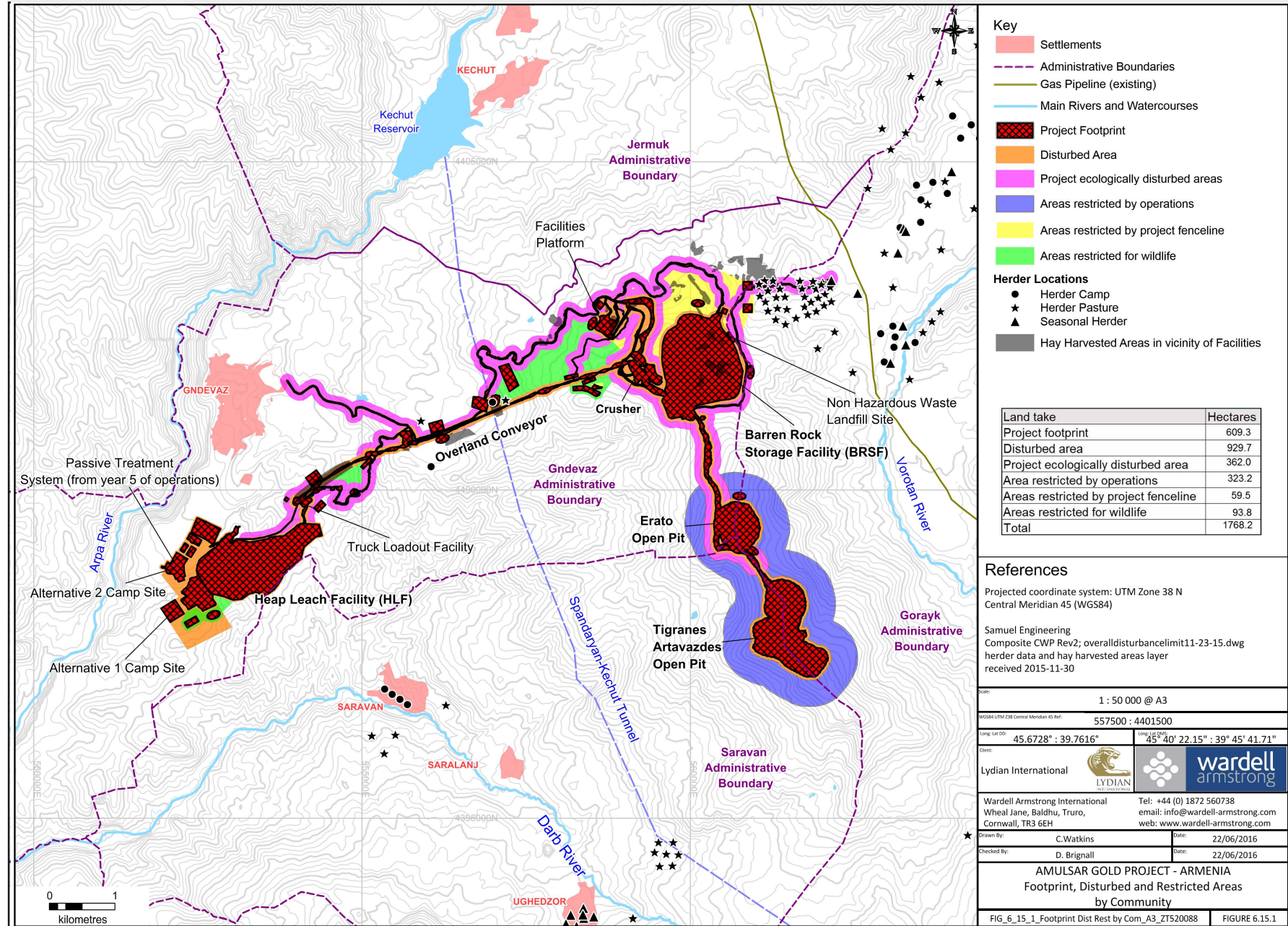


Figure 2. Revised Project Footprint with Impacts to Agricultural Land, Hay Fields, and Herders



2. ADDITIONAL PROJECT IMPACTS COVERED IN THIS ADDENDUM

7. Additional land that will be required for construction and operation of the Amulsar Project is located in the communities of Gndevaz, Saravan and Gorayk. Land that is affected in the communities of Saravan and Gorayk is State and Municipal land (generally high altitude pasture land), whereas land that is affected in Gndevaz also includes private land in addition to State and Municipal land (see administrative boundaries between the three communities in Figure 2).
8. Key additional impacts covered in this Addendum belong in the following four categories:
 - Some limited agricultural land is affected by the overland conveyor (see Figure 1 above);
 - A number of municipal or State land plots are affected (mainly by the so-called “Barren Rock Storage Facility” or BRSF) where hay is informally gathered by residents of Gndevaz;
 - Seasonal herders are affected as mining infrastructure will affect high altitude grazing land;
 - There will be severance impacts to the daily movements of cattle as a result of the installation of a 5.3 km long conveyor from the crusher to the heap leach facility.
9. As far as the conveyor is concerned, the Project’s land access strategy has changed: the initial plan, as reflected in the LALRP, was to use associated land, based on a rental agreement. However, further to consultation with stakeholders, it appeared more appropriate to acquire these lands. This Addendum reflects this modified strategy.
10. Additional land acquisition covered in this Addendum entails no physical displacement.
11. The following table shows an overview of impacts covered in the initial phases of land acquisition and impacts covered in this Addendum:

Table 1. Overview of Additional Land Needs and Associated Impacts Covered in this Addendum

Category of affected assets	Acquired to-date in phases 1 to 3 of the land acquisition exercise (main LALRP)			Covered in this Addendum		
	Number of affected land plots	Surface of affected land plots (ha)	Number of affected households	Number of affected land plots	Surface of affected land plots (ha)	Number of affected households
State land	N/A	2345.9	See herders	0	0	See herders
Municipal land	N/A	1522.0	See herders	0	0	See herders
Private land Phases 1-3	238	138.9	150	14	0	0 ¹
Private land Phase 4	0	0	0	22	13	20
Seasonal Herders	N/A	See State and Municipal land	70	N/A	N/A	40 ²

12. Annex 1 provides a list of affected agricultural plots, Annex 2 a list of affected hay users, and Annex 3 a list of surveyed herders.

¹ The total number of households affected by acquisition of private land in the heap leach area is 7, all of whom were affected previously, so there are no “new” landowners in regards of this area (see paragraph 21 below).

² 40 is the total final number of affected seasonal herders. A total of 70 herders had been estimated to be affected per the previous design.

3. MITIGATIONS AND COMPENSATION

3.1 AGRICULTURAL LAND

3.1.1 Current Status of Land Acquisition

13. Previous land acquisition was divided into three phases per a phasing of construction priorities. Land acquisition started in early 2015 and has continued since, with phases 1 and 2 implemented in the first half of 2015, and Phase 3 to be implemented in early spring 2016.
14. 238 land plots had been identified for acquisition in Phases 1 to 2. 234 of these land plots have already been acquired from 150 affected households following a negotiated process described in the LALRP, with full compensation (100%) paid to the affected landowner in two instalments of 10 and 90%.
15. 4 land plots remain to be acquired due to various issues (2 problematic paper work issues; 1 legal issue; 1 unwilling landowner). Per principles in the LALRP, these 4 land plots are being expropriated (related legal proceedings were triggered in the fourth quarter of 2015).

Table 2. Status of Land Acquisition as of February, 2016

Item/per plot	Number	Percentage
Total land plots to be acquired	238	100%
Number of affected households	150	
Negotiations undertaken	238	100%
Final agreements signed	234	98%
Title transferred to Geoteam	234	98%
Full compensation payments made (initial 10% + final 90%)	234	98%
Remaining plots to finalize agreements and compensation payments (on-going expropriation proceedings)	4	2%

3.1.2 Additional Acquisition of Agricultural Land

16. The total width of the land corridor that needs to be acquired for installation and operation of the conveyor (including a maintenance track and a safety buffer) is 30 metres.
17. A total of 22 cadastral plots need to be additionally acquired for the conveyor and are therefore covered in this addendum. Of these, 19 have already been identified as privately held at the time of writing this Addendum, while another 3 are still in the process of identification. The total affected surface area is 13 ha.
18. After mine closure, associated land will be returned to the landowners or to the community according to principles described in the LALRP. It is anticipated that after mine closure these lands can be reclaimed and used for grazing and hay.
19. The affected lands are categorised in the cadastre as arable. In spite of this categorisation, they are not cultivated and are used as grazing land or hay land (natural grass, no planted fodder crop). There is no irrigation water supply. There are no orchards, trees or gardens, due to the relatively high altitude and the presence in Gndevaz of land better suited for such needs. There are no fences separating private land plots, nor is there any residential or other structures. This area is widely used as pasture, with cattle being moved from higher elevations in the spring and summer to lower elevations in the fall, hence the need to provide safe crossings, which is addressed in Section 3.4 of this Addendum.
20. The following photographs present a general view of this area.

Figure 3. General Aspect of Land Plots Affected by the Conveyor (“Site 14”)

21. Another 14 plots (15.7 hectares in total) need to be additionally acquired to accommodate slight changes in the Project layout in the area of the heap leach facility (“Site 28”). These plots are held by 7 landowners: all of these landowners have been affected before by previous phases of land acquisition (Phase 1-2).
22. Annex 4 presents a socio-economic overview of affected landowners, based on a livelihood survey carried out in Q4, 2015 using the same questionnaire as had been used previously for the preparation of the LALRP.

3.1.3 Land Access Approach

23. The initial concept as provided in the LALRP was that land plots under the conveyor would be accessed on a temporary basis by Geoteam, with relevant compensation being paid to the landowner in the form of a rent or an easement. Further legal work and consultation with landowners have indicated that given the relatively long period of occupation (about 15 years), full acquisition was preferable from the point of view of both the Company and the affected landowners. Geoteam will therefore acquire these land plots and use the approach outlined in the LALRP (negotiated settlement based on a compensation offer, with expropriation used only as a last resort after all negotiation avenues have been exhausted).
24. A preliminary valuation of affected lands and crops was carried out in early November 2015 by the same experienced local expert that valued land plots acquired in Phases 1 to 2, under the oversight of an international land acquisition consultant. The same methodology described in the LALRP³ was applied. It was verified that rates for hay, pasture or annual crops have not changed since 2014, when Phases 1 to 2 plots were valued, as neither Armenian macro-economic nor local market conditions have changed since. Both a summary and detailed description of these plots are available.

3.1.4 Orphan Land

25. Where a plot that is wider than the conveyor buffer is acquired, the acquisition by the Project of the part of this plot located in the conveyor buffer may leave sections of land on either side that will not be required for the Project and would normally not be compensated. Agricultural activities on these sections of land could normally be continued. There will be cases, however, where the remaining part will be too small to make cultivation economically worthwhile.

³ LALRP Section 5.3: Valuation.

26. Orphan land is such land that is not directly needed for the Project (it is not part of the Project direct footprint) but becomes uneconomic to the landowner or land user because of Project activities. Examples include:
 - Plots that are bisected by a linear facility (e.g. the conveyor) such that farming on the remainder on either side of the linear corridor becomes impossible or uneconomic (e.g. because machinery cannot turn any longer), either permanently, or temporarily during the construction;
 - Parts of plots that although not directly affected, become severed from access roads or irrigation or drainage infrastructure as a result of Project activities, such that access or cultivation are no longer possible, either permanently, or temporarily during the construction.
27. Based on initial data on locations of affected private plots along the conveyor, there might be several orphaned plots of land. When negotiations with land owners start, these cases will be verified one by one. Similarly, access to the remaining land across the construction corridor may be restricted making cultivation during construction impractical or uneconomic. If small remaining parts are made uneconomic as a result of the purchase or occupation, they may be eligible to compensation as “orphan land” subject to review.
28. Whether a parcel qualifies as “orphan land” will be reviewed on a case-by-case basis based on a request lodged by the current landowner. The following criteria will be considered in this review:
 - Size, dimensions and shape of the “orphaned” part of the plot – particularly with consideration of the agricultural equipment typically used (tractor, combined harvester) and its ability to access the orphaned part and to turn normally given the dimensions and shape of the plot;
 - Access restrictions and whether these will only last for the duration of the construction period or are permanent;
 - Restrictions to or interruption of irrigation or drainage during the construction period.
 - Disruptions to co-operative arrangements between landowners (e.g. hiring of tractors and other agricultural equipment), which result in uneconomic use of land for the remaining land right holders.
29. This review is conducted in the field by a Land Acquisition team member and includes a joint visit of the plot with the claimant. It is sanctioned by a brief report providing the conclusion (claim justified or not), its justification based on the criteria above, and the calculation of compensation due in regards to the orphan part (land and crops) based on rates in the GLAC. The report is submitted to the LA Manager who reviews and approves it for further finalisation of the compensation agreement with the claimant.

3.2 INFORMAL HAY COLLECTION BY LOCAL RESIDENTS IN HIGH ALTITUDE PROJECT-AFFECTED AREA

3.2.1 Anticipated Impacts

30. A land use survey was conducted in November 2015 to identify the actual use of land in high altitude Project infrastructure, which includes (see Figure 2) the pits and their buffer, the Barren Rock Storage facility (BRSF), and the platforms for mine infrastructure. Some plots were then identified as having been used in the past for hay collection by Gndevaz and Gorayk residents, and this information was further verified with the two village mayors.
31. Key outcomes of this survey and subsequent consultation are the following:
 - Project infrastructure in high altitude areas will affect a combination of municipal and State land belonging to Gndevaz and Gorayk communities. There are no private land plots in this area.
 - There are no formal lease agreements granted by either municipality for land use (for hay, pasture, or other usage).

- However, this land has been used in the past for hay collection. The Gndevaz Mayor has also reported that the area had not been used for hay in the past 4-5 years given the relatively long distance from the village (compared to other areas that are much easier to access, such as the lower area that is affected by the conveyor at “Site 14”) and the expenses related to transport for hay collection.
- 18 informal users of hay land in the BRSF and surrounding areas were identified (See Annex 2: list of hay users). All of them are from Gndevaz.
- Initial discussions were held with the Gndevaz Mayor on alternative hay field areas for these informal users: he confirmed the availability of such lands within Gndevaz municipality area.

3.2.2 Land Access and Impact Mitigation Approach

32. From a legal perspective, State and municipal lands are accessed by Geoteam based on rental agreements further to an auction process. Most of such State and municipal land is already under rental by Geoteam, and some more will have to be rented according to the same process as before. Incidentally, these rental monies already provide a significant part of the yearly budgetary resources of these two municipalities.
33. As use for hay collection by individual households from Gndevaz is informal only, there will be no cash compensation. The mitigation approach will be to discuss access to alternative locations with the authorities and the affected group, and to facilitate such access if warranted.
34. Follow-up meetings are planned with the Gndevaz Mayor to finalise the identification of alternative locations for the hay users, and further with informal land users in Gndevaz to discuss alternative lands for their use (planned in April 2016). As summarized in the LALRP, the Company will facilitate the lease agreement process with local administration and cover related costs (lease costs consistent with local rates).

3.3 SEASONAL HERDERS

3.3.1 Overview

35. Herders originating from various communities rent high altitude grazing land from municipal administrators, with much of the potentially affected seasonal herding activities taking place on land administered by Gorayk. This is a transhumant summer activity, with herders and cattle present in the area from May to October, in average. Most such herders originate from a distant village called Xndzoresk (which is not otherwise affected by the Project), some from Gorayk and adjacent area.
36. Lease agreements are typically formalised between the local authority and the herder, and a minimal rental fee is paid into the community budget by the herder. Herders establish tiny camps using caravans, ship containers or tents, where they spend the night and gather cattle for milking and sometimes butter and cheese preparation. Access to land and water and proximity to existing milk collection services and herders permanent houses are the key factors that herders consider when locating these camps.
37. Focus group discussions with herders conducted in July 2014 and 2015 highlighted the range of livelihood activities undertaken by seasonal herders while they are in the area. For example, the herders originating from Xndzoresk reported the following indicative productivity and income:
 - Between 15-16 herders, they have about 5-600 head of cattle, comprising a mixture of dairy and beef cattle;
 - Up to 30-40 kilos of cheese are produced in the camp during the summer season;
 - Up to 6 trucks collect milk from the herders daily (morning and evening). It is estimated that between 2,000 and 3,000 litres of fresh milk are collected daily. At AMD 140 per litre, this generates an estimated gross income of about AMD 300.000 per day (about USD 625 or about USD 40 per herder per day during the season: as of fall 2014). These numbers however, are lower as of late fall 2015: AMD 105-110 per litre that translates into AMD 260.000 per day (about USD 530 or about USD 32-33 per herder during the grazing season – 5-6 months).

3.3.2 Anticipated Impacts

38. Based on the final Project footprint, about 40 seasonal herders will be impacted and it is anticipated that they will have to move to alternative areas, either because grazing land will be taken for Project infrastructure or because of disruption caused by operations. The move will require to establish new camps, or to move existing camps to the new area.
39. There are no formal structures constructed or used by herders as temporary camps, but most herders use abandoned structures or mobile structures such as old buses or containers (see photographs below), which are movable to a new location.

Figure 4. Seasonal Herders in High Altitude State Land in the BRSF Area



Group of herders from Xndzoresk in a focus group interview carried out in 2015 for the ESIA



During the summer, herders' families, including small children, are present in the summer pasture



Cattle being led to the pasture by a herder riding a horse



Typical herder shelter



Animal shelter and corral, and milk storage containers



Corral and herder shelter

40. No municipal services are provided to the herder camps (i.e. no electricity, sewerage, waste collection, water distribution etc). Water is caught from mountain springs and kept in tanks for use by animals and humans.

3.3.3 Consultation with Seasonal Herders

41. Herders have been consulted with in several occasions since 2012. The following table shows recent consultation events held with herders, and the following paragraph summarises related outcomes of these consultations.

Table 3. Recent Consultation with Seasonal Herders

Date	Target Group	Items Discussed
July, 2014	BRSF herders	Focus group discussions with 15 herders at the site.
July, 2015	BRSF herders	Focus group discussions with 16-18 herders at the site.
November, 2015	BRSF and wider area herders	Meeting in the presence of the mayors of Gorayk and Xndzoresk. Discussion of alternative areas accessible to herders. Herders expressed their concerns about the need to re-establish water supplies. It was agreed to carry out a joint visit to alternative pasture areas in early spring 2016 (upon snow melt). A follow on site visit is planned in late March-mid April, once the snow is melted in this area.

42. In these consultations and through local authorities, herders have indicated their preference to stay in the same general area and have also mentioned that they were happy for the Project to proceed as they expected only minimal inconvenience even if a move was required, as similar grazing land is considered abundant.
43. During focus group discussions held in July 2014, herders from Xndzoresk, who are based to the east of the BRSF during summer months, indicated that it takes three days for them to move their cattle from their village to this area at the beginning of summer (May each year), and they would like to move to land closer to home, using pasture areas which they consider not to be used in closer proximity to their village. They have been using the Vorotan valley for generations because the Vorotan stays green longer than other areas in south-eastern Armenia and thus ensures a longer grazing season for cattle.

3.3.4 Mitigation and Compensation Approach

44. The mitigation and compensation approach will therefore be the following:
- Seasonal herders will be offered alternative areas with water and access (in coordination with Gorayk Mayor), with rental costs consistent with local rates;
 - Spring catchments will be built where needed to open up new pasture areas that are currently not used because of the lack of water; assessments and plans in this regard will be finalized in spring 2016; initial assessment has been done in coordination with Gorayk Mayor and a local entity. Company will organize a follow on assessment in late March-mid April with engineers for accurate cost estimate.
 - New road access allowing reasonable access to the milk collection system will be provided where warranted, to be completed by May 2016;
 - A disturbance allowance will be provided to the seasonal herders for the moving of camps, in an amount to be consulted upon with herders (flat rate for each camp to be moved);
 - Support in securing formal leases between Gorayk municipality and herders will be provided as needed;
 - Herders will be eligible to benefit from the Livelihood Restoration Plan (particularly the artificial insemination programme).
45. The Company will monitor herders for three years to check that all affected herders, including those without a lease, have been able to identify and exploit new pasture areas with minimal inconvenience. A yearly survey of all herders will be conducted (per principles in the LALRP). If

further negative impacts are identified, additional support measures will be identified in interaction with local mayors and implemented to ensure that affected herders can secure proper access to adequate and affordable replacement pasture land. The Company will report on progress and monitoring of this issue in its periodic monitoring reports.

3.4 DAILY HERDERS

46. “Daily” herders from Gndevaz are using land in the conveyor area (cattle are taken to that area in the morning, and taken back to the village in the evenings). This takes place in the warm season only, when grass is available. The total width of the restricted strip of land related to the construction and operations of the conveyor, including the width of the facility itself and a buffer on both sides, will be 30 metres, with a total length of about 5.3 km. The footprint is relatively minor given the wide space available for grazing. While animals will be able to continue to use this area without significant impacts to the availability of grazing land, the conveyor will form an obstacle to their movements.
47. To avoid any severance effect on daily herders and their animals, the Company has incorporated in the design of the conveyor the establishment of three crossings to ensure the safe movement of herders and livestock to cross the conveyor and use lands on the other side. One of the 3 crossings is designed to accommodate vehicles and tractors.
48. The location of crossings was identified in consultation and coordination with the Gndevaz Mayor. Further consultation was held with Gndevaz herders on crossings and access (December 9, 2015) and information was provided on the crossings and their approximate locations.

3.5 SUMMARY ENTITLEMENT MATRIX

49. Based on the above, the table below presents a summary entitlement matrix for each of the categories of impact.

Table 4. Summary Entitlement Matrix

Category	Description of impact	Number of affected households	Mitigation / Compensation
Agricultural land	22 private plots affected in the conveyor area, categorised as agricultural but mainly used for hay collection and grazing. Another 14 agricultural plots affected in Site 28 (heap leach facility).	20 (3 new, 17 covered in the main LALRP) 7 (all covered in the main LALRP)	Compensation of land and crops per rates and process in the LALRP
Informal Hay Collection by Local Residents in High Altitude Project-Affected Area	18 informal users from Gndevaz have used in the past a high altitude area of municipal and State land located close to the BSRF that will be affected by Project land take.	18	Identification and follow on consultation on access to alternative locations, to be carried out with the authorities and the affected group. Facilitation of access to such areas once identified.

Category	Description of impact	Number of affected households	Mitigation / Compensation
Seasonal herders	Acquisition by Project of grazing land used by transhumant herders coming seasonally (summer) to the area to graze their cattle	40	<ul style="list-style-type: none"> ○ Identification of alternative grazing areas and facilitation of access thereto. ○ Provision of water (spring catchments) to any new grazing areas where water is not readily available. ○ Road allowing reasonable access to the milk collection system as needed. ○ Disturbance allowance to allow for the moving of camps, to be discussed with herders). ○ Support in securing formal leases with Gorayk municipality. ○ Benefit associated to the Livelihood Restoration Plan (particularly artificial insemination programme).
Daily herders	Severance: the conveyor will constitute an obstacle to daily movement of cattle	About 90	3 crossings through the conveyor to mitigate obstacle effect and enable grazing on both sides of the conveyor.

4. PROCESSES AND IMPLEMENTATION

4.1 NEGOTIATION AND COMPENSATION PROCESS

4.1.1 Overview

50. The negotiation and compensation process is described in the LALRP and will be applied with minor variations for mitigations and compensation provided in this Addendum. Key points and specific variations introduced by the Addendum are described here as a brief summary, with full details available in the LALRP.

4.1.2 Valuation

51. Each plot is valued on a case-by-case basis by a professional valuer. Crops are valued separately by a professional agronomist. Rates presented in the LALRP are still applicable in 2016 as there have been no significant changes in market conditions in Armenia in general and in the area.

4.1.3 Compensation Offer and Negotiation Process

52. Compensation offers will be prepared for each affected property based on the inventory and the valuation described above. They are confidential. Their delivery to the affected landowner triggers a stage negotiated process described below.
53. A three-visit process is implemented:
- In the first visit, the landowner is invited to sign a Measurement and Count Sheet reflecting the measurements and counts of done in the land parcel, and to notify Geoteam of the presence of any land users; contact information for co-owners is gathered.
 - In the second visit, the team visits each affected landowner or land user at their home or requests them to come to the field office, checks identification documents, explains the process again, informs them of the grievance mechanism, presents the compensation offer and agreement (prepared beforehand), and leaves the compensation offer with the affected person for her/his consideration.
 - In the third visit, to take place no earlier than 2 weeks and no later than 6 weeks after the second one, the team visits each affected landowner again and seeks to obtain their signature.
54. Legal agreements are further submitted to each individual landowner and landuser. Most of these agreements are simple sale-purchase agreements.

4.1.4 Payment

55. Payment will be made in one instalment of 100% of the amount in the agreement. Geoteam will withhold and pay applicable taxes. Payments of leases to Municipal budgets are done on a yearly basis.

4.1.5 Registration

56. Once the transaction is signed by both parties and notarised, the Company addresses the transaction dossier to the Cadastral office for registration and pays associated fees.

4.1.6 Expropriation

57. While it is anticipated that expropriation will normally not be used, it may be triggered as a last resort in cases where all reasonable avenues to reach a negotiated settlement have been exhausted. This may apply, for example, to the following situations:
- Absentee landowners or co-owners not providing a Power of Attorney, or whose whereabouts are unknown;
 - Landowners refusing engagement over a reasonable negotiated settlement after multiple visits.

58. The reasons why expropriation has to be used will be thoroughly documented (notarised minutes of disagreement in case of a refusal, and documentation of efforts to locate and contact absentee landowners).

4.2 IMPLEMENTATION SCHEDULE

59. The figure below shows the implementation schedule pertaining to activities described in this Addendum.

Figure 5. Implementation Schedule

#	Timeframe Activity	November 2015				December 2015				Jan. 2016				February				March					April			
		02/11/15	09/11/15	16/11/15	23/11/15	01/12/15	07/12/15	14/12/15	21/12/15	04/01/16	11/01/16	18/01/16	25/01/16	01/02/16	08/02/16	15/02/16	22/02/16	01/03/16	07/03/16	14/03/16	21/03/16	28/03/16	04/04/16	11/04/16	18/04/16	25/04/16
1	Check measurements and counts with landowners																									
2	Finalize the list of landowners and land users																									
3	Prepare compensation templates																									
4	LALRP Addendum disclosure; collect feedback if applicable																									
5	I visit: submit I batch of compensation templates to landowners (20x2)															X	X									
6	II visit: signing of compensation templates by landowners																X	X								
7	III visit: agreement preparation																		X	X	X					
8	IV visit: Sales agreement signing, payment of 100% to first batch (20x2)																			X	X	X	X			
9	Paper work on title transfer of the acquired land																									
10	Compiling of landowner announcements (formality, to confirm no claim on acquired lands)																									
11	Processing of difficult cases (including expropriation from Phase 1)																									
12	Expropriation follow on: 3 cases from Phase 1 and 2; new ones if applicable																									
13	Consultations &/or meetings with herders (seasonal, daily)																									
14	Livelihood restoration activities																									
15	Monitoring & evaluation																									

Annex 1 – List of Affected Agricultural Plots in the Conveyor Area

#	Cadastral Number	Land category	Names of landowners
1	10-016-0203-0008	arable without irrigation	Պավլիկ Ալեքսանյան Արտավազդի, Ելիզա Ալեքսանյան Մկրտչի, Հրանտ Ալեքսանյան Պավլիկի, Հերմինե Ալեքսանյան Հովհաննիսի
2	10-016-0211-0022	arable without irrigation	Վարդան Եղյան Ջորիկի, Մագթաղ Եղիյան Ջորիկի, Վանուհի Եղոյան Ջորիկի, Գարիկ Եղիյան Վարդանի, Գուրգեն Եղիյան Վարդանի
3	10-016-0203-0038	arable without irrigation	Կարապետ Աղաբեկյան Թադևոսի
4	10-016-0211-0024	hay	Սաթիկ Հարությունյան
5	10-016-0203-0009	arable without irrigation	Ֆլորա Նիկողայան
6	10-016-0211-0020	hay	Աշոտ Եղոյան Արշալույսի, Ռեմիկ Եղոյան Լիպարիտի, Ռաֆիկ Եղոյան Աշոտի
7	10-016-0211-0021	arable without irrigation	Վարդան Եղյան Ջորիկի, Մագթաղ Եղիյան Ջորիկի, Վանուհի Եղոյան Ջորիկի, Գարիկ Եղիյան Վարդանի, Գուրգեն Եղիյան Վարդանի
8	10-016-0203-0042	arable without irrigation	Արևիկա Մկրտչյան, Սևակ Մկրտչյան Վանիկի, Վրեժ Մկրտչյան
9	10-016-0203-0035	arable without irrigation	Արծրուն Թադևոսյան Մամիկոնի, Երազիկ Թադևոսյան Արամայիսի, Ռուբիկ Թադևոսյան Արծրունի
10	10-016-0203-0036	arable without irrigation	Արտեմ Սարգսյան Սեդրակի, Վերգուշ Արսենյան Թադևոսի, Հրահատ Արսենյան Արտեմի, Անահիտ Արսենյան Հրահատի, Դավիթ Արսենյան Հրահատի
11	10-016-0211-0023	arable without irrigation	Աշոտ Եղոյան Արշալույսի, Ռեմիկ Եղոյան Լիպարիտի, Ռաֆիկ Եղոյան Աշոտի
12	10-016-0203-0039	arable without irrigation	Արծրուն Նիկողայան Վաղարշակի, Հրանուշ Մարգարյան, Վաղինակ Նիկողայան Արծրունու, Դավիթ Նիկողայան Արծրունու
13	10-016-0204-0133	arable without irrigation	Ֆելիքս Խաչատրյան Մկրտիչի, Լուսինե Խաչատրյան Ֆելիքսի, Մկրտիչ Խաչատրյան Ֆելիքսի, Օֆելյա Ջանոյան Արյուծիկի
14	10-016-0203-0037	arable without irrigation	Լիդա Ալավերդյան Սամսոնի, Մայիս Աղաբեկյան Ռաֆիկի, Վարդանուշ Հովսեփյան Նորաինի
15	10-016-0203-0040	arable without irrigation	Ֆլորա Բարսեղյան Էլիզումի, Գարուն Նիկողայան Նորիկի, Մարինե Նիկողայան Նորիկի, Արփինե Նիկողայան Նորիկի, Պարզն Նիկողայան Նորիկի,
16	10-016-0203-0010	arable without irrigation	Նաիրի Նիկողայան Վարազդատի

#	Cadastral Number	Land category	Names of landowners
17	10-016-0203-0043	arable without irrigation	Սաթիկ Ալավերդյան Մանուկի, Արարատ Ալավերդյան Հարությունի, Սիրանուշ Խաչատրյան Գուրգենի, Գարիկ Ալավերդյան Արարատի, Գոհար Ալավերդյան Արարատի,
18	10-016-0203-0041	arable without irrigation	Ռուբեն Հովհաննիսյան Աբելի, Լարիսա Հովհաննիսյան Նիկոլայի, Էդգար Հովհաննիսյան Ռուբիկի, Արսեն Հովհաննիսյան Ռուբիկի
19	10-016-0203-0046	arable without irrigation	Աղվան Մկրտչյան Արտեմի, Ելենա Սարգսյան Վահանի, Ցողիկ Մկրտչյան Աղվանի, Շամիրամ Մկրտչյան Աղվանի, Արթուր Մկրտչյան Աղվանի, Հայկուհի Մկրտչյան Աղվա
20	10-016-0204-0132	arable without irrigation	owners of the next 3 plots being checked with Cadaster (Official letter sent)
21	10-016-0204-0171	arable without irrigation	same as above
22	10-016-0211-0019	arable without irrigation	same as above

Annex 2 – List of Informal Hay Users in the BSRF Area

#	Names of hay field land users (Gndevaz)
1	Արշակայան Մխիթար
2	Անտոնյան Շահեն
3	Մկրտչյան Բենիամին
4	Եղոյան Ռաֆիկ
5	Սարգսյան Հակոբ
6	Վասակյան Վասակ
7	Նիկողայան Նաիրի
8	Առաքելյան Դանել
9	Հովհանիսյան Օնիկ
10	Հովսեփյան Սերյոժա
11	Մկրտչյան Հայրապետ
12	Եղոյան Արզամ
13	Թադևոսյան Մամիկոն
14	Խաչատրյան Վանիկ
15	Ստեփանյան Հրաչ
16	Զաքարյան Իգնատ
17	Թադևոսյան Տիգրան
18	Գրիգորյան Դավիթ

Annex 3 – List of Surveyed Herders

#	Name of herder	Permanent residence	Site 14/, daily herders	BRSF; seasonal herders	Distance/km: pasture to and residence
1	Հրայր Միրզոյան; Սերյոժա Միրզոյան	Xndzoresk		V	100
2	Վրեժ Դալաթյան, Վլադիկ Դալաթյան	Xndzoresk		V	100
3	Հարությունյան Հարութ	Xndzoresk		V	96
4	Հովհաննես Սողոմոնյան, Հակոբ Սողոմոնյան	Xndzoresk		V	96
5	Ղուլյան Նորիկ	Xndzoresk		V	100
6	Շահնուբարյան Արամայիս	Xndzoresk		V	84
7	Ղարդիյան Արամայիս	Xndzoresk		V	100
8	Վարդան Դիշունց	Xndzoresk		V	100
9	Հրանտիկ Բեգլարյան	Xndzoresk		V	100
10	Ղաղուց Սուրիկ	Xndzoresk		V	100
11	Սարգսյան Դավիթ Սարգսյան Յուրիկ	Xndzoresk		V	100
12	Հայկ Կարապետյան Սամվել Կարապետյան	Xndzoresk		V	100
13	Վահագն Սարգսյան Թամարա Սարգսյան	Xndzoresk		V	100
14	Մուրադյան Արտաշ	Xndzoresk		V	100
15	Նորիկ Ղուլիան	Xndzoresk		V	100
16	Սերյոժա Բեգլարյան	Xndzoresk		V	85
17	Մուրադյան Արտուշ	Nerkin Xndzoresk		V	100
18	Մովսիսյան Գուրգեն	Shakin		V	35
19	Վահան Խաչատրյան	Shake		V	30
20	Աղաբեկյան Ալբերտ	Goris area		V	80
21	Սարգսյան Սամվել	Gorayk		V	90
22	Գրիգորյան Շահեն	Akner		V	100
23	Ղարիբ Ստեփանյան Գարեգին Ստեփանյան	Hoktembryan		V	80
24	Հակոբյան Հրաչ	Eghegnadzor		V	60
25	Բակունց Սասուն	Verishen		V	70
26	Մուրադ Աղաջանյան	Gorayk		V	4
27	Հայկ Մկրտչյան Վլադիկ Մկրտչյան	Gorayk		V	3
28	Արշակ Անտոնյան	Gorayk		V	4
29	Խորեն Եփրեմյան	Gorayk		V	3

#	Name of herder	Permanent residence	Site 14/, daily herders	BRSF; seasonal herders	Distance/km: pasture to and residence
30	Պողոսյան Արամ	Gorayk		V	3
31	Գրիգորյան Հրաչյա Սիմոն Գրիգորյան	Gndevaz	V		20
32	Շահեն Նիկողայան	Gndevaz	V		10
33	Թաթուլ Գրիգորյան	Gndevaz	V		6
34	Նիկողայան Դավիթ	Gndevaz	V		10
35	Եղոյան Վահան	Gndevaz	V		2
36	Ռաֆիկ Եղոյան	Gndevaz	V		3
37	Կարո Հունանյան	Gndevaz	V		7
38	Ռուբեն Հովհաննիսյան	Gndevaz	V		6
39	Մկրտչյան Հակոբ	Gndevaz	V		7

Annex 4 – Socio-Economic Summary on Landowners of Affected Agricultural Plots

SOURCES OF INFORMATION

The following sources of information were used to generate the summary of socio-economic baseline presented in this sector:

- **Livelihoods survey** was conducted in early November 2015, to cover all land owners of 22 plots in Site 14, and within 15 m. buffer zone (each side) from the Conveyor. A total of 17 affected households were surveyed for Phase 4.
- The team followed the same methodology and questionnaire applied during the fall 2014 Livelihood Survey, designed by international consultant F. Giovannetti. Thus, there is no difference between the two surveys: the 2015 Survey covered additional landowners for Phase 4.
- **Land use survey** in November 2015 to identify use of land in the Project footprint.
- **Herders' survey** was carried out late Sept 2015, to cover the BRSF and a wider area for seasonal herders; and b) daily herders in Site 14 from Gndevaz. A total of 39 were surveyed (30 from BRSF and 9 from Gndevaz).
- **Qualitative information** gathered from local sources, including key informants within local municipalities and other informants.
- **Focus groups** held in 2014 and again in July-August 2015 by the team in charge of ecosystem services survey for the ESIA.

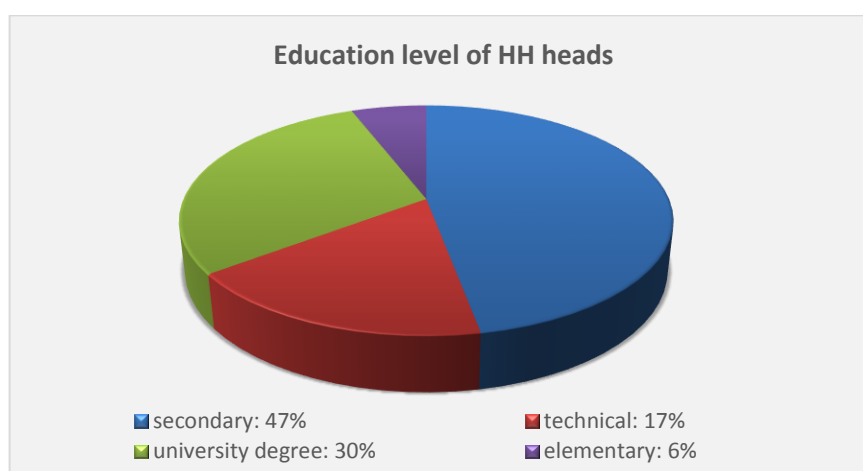
RESULTS OF THE HOUSEHOLD QUANTITATIVE SURVEY

The results below summarize the findings from Livelihood survey in Gndevaz conducted in November 2015 for 17 households (HH) affected by LA in Phase 4.

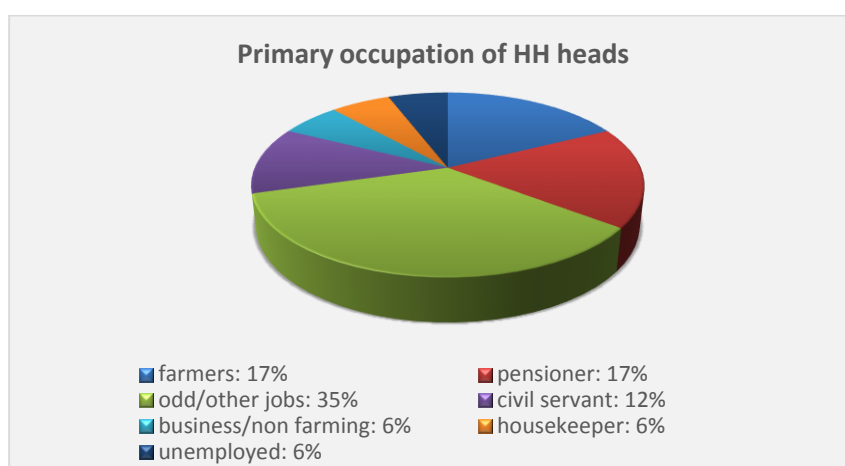
Demography of affected households

The average age of surveyed HH heads is 52.5 years, with a minimum age of 32, and a maximum age of 89 years. Average HH size is 4.6 individuals (including the head of HH), with a minimum of 1, a maximum of 8 and a median of 5.

There are 2 female-headed HH (0.11%): one women-headed, one is a pensioner couple. The educational level of heads of HHs is shown in the figure below:



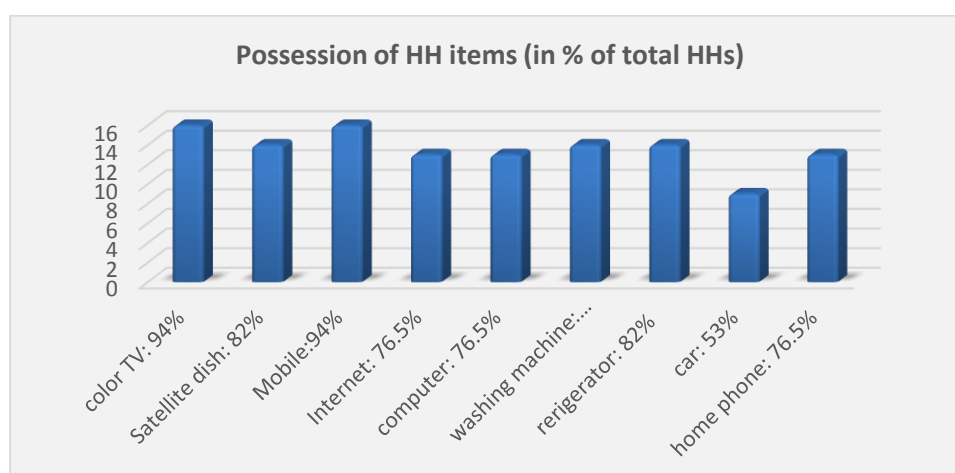
This reinforces findings of the larger group of surveyed in fall 2014 (150 HHs), i.e., a generally well-educated community, where no head of HH has not completed at least primary education.



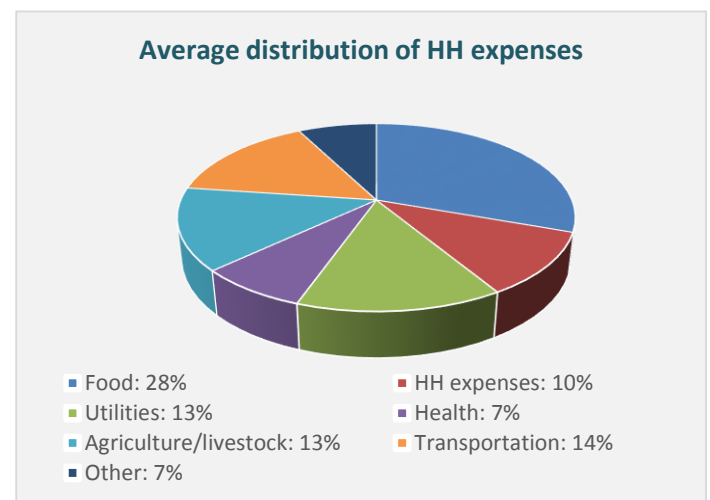
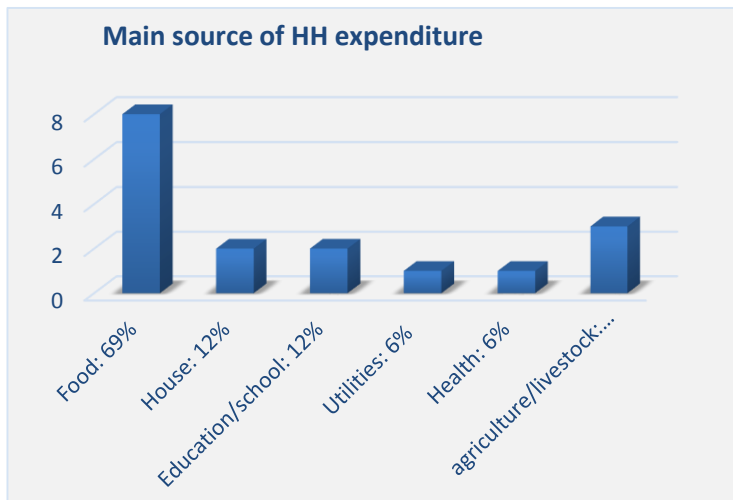
Most surveyed heads of HH indicated farming as their primary occupation, at the same time mentioning that their livelihood is based on a combination of activities including farming, livestock, odd jobs, etc.

Livelihoods and standard of living

The figure below shows the percentages amongst affected HHs owning certain household items selected as indicators of standard of living.

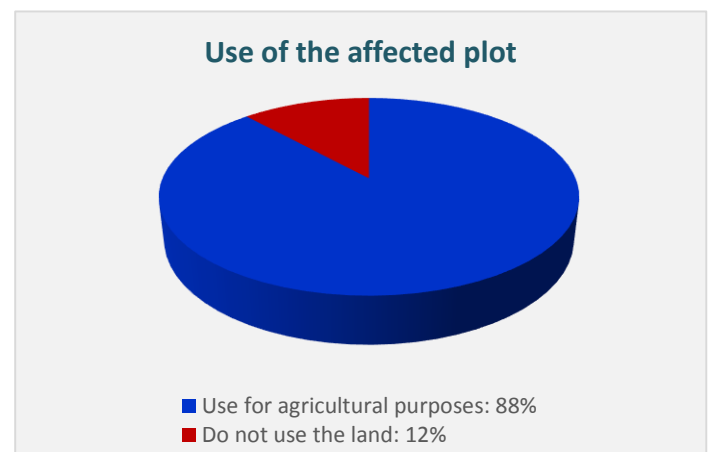
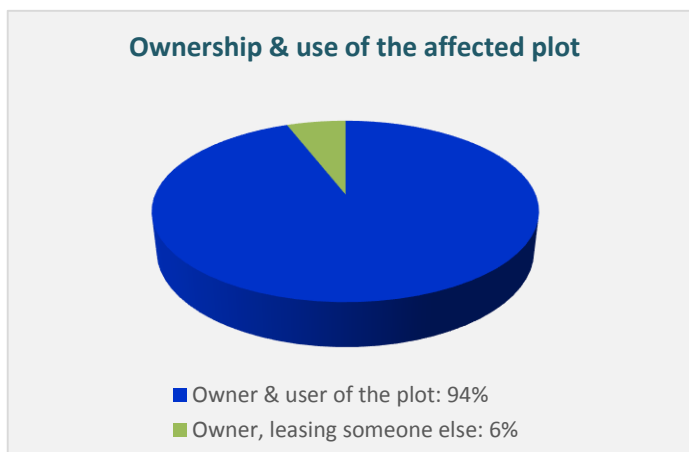


The figures below show the percentage of affected HHs declaring certain types of expenditures as their primary source of expenses, and (right side) the average distribution of expenditures. Food in both charts is declared as the first source of expenditures and the largest amount spent as an average HH expense per month.

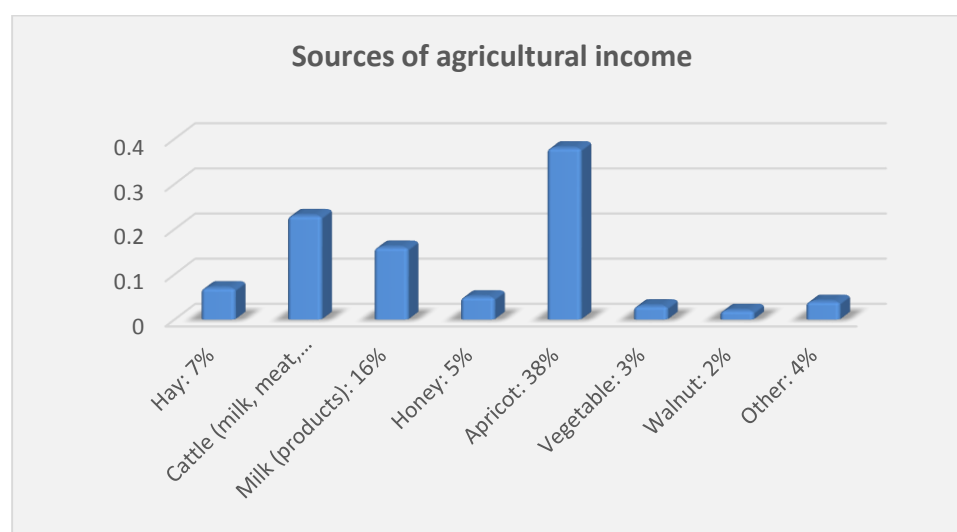


Agriculture

The figures below show the ownership of the affected plots and the purpose of the land use: all lands have identified owners and 88% of land is used for agricultural purposes: those not using land for a livelihood are primarily elderly pensioners.



The figure below shows the sources of agricultural income:



The table below shows the average yearly income of surveyed HHs from different areas of agriculture, indicating that income is based on different livelihood sources.

	Total annual income of HHs from all sources: agriculture, livestock, paid jobs, services, odd jobs, etc.)	
	AMD / year	USD / year ⁴
Average	2,380,000	5,000
Maximum	5,800,000	12,080
Minimum	300,000	625

⁴ At an exchange rate of USD 1=AMD 480